

# MANUFACTURERS RECORD

Weekly Newspaper Devoted to the Industrial, Financial, Railroad,  
Mining, Contracting, Engineering, Building, and General  
Business Interests of the South and Southwest

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## *In This Issue:*

A Sane View of the Question of  
Workmen's Liability Insurance.

The Right Kind of Work for  
Immigration to the South.

A Century's Coal Production in  
the South.

Agricultural Potentialities of West  
Virginia.

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BALTIMORE, NOVEMBER 16, 1911

# B. t. u.

## THE MEASURE OF HEAT

The term British thermal unit (abbreviated B. t. u.), often confronts the user of coal. As a yard stick is a measure of length, a B. t. u. is a measure of heat. The total amount of heat contained in a pound of fuel, all of which is liberated by complete combustion, is expressed in B. t. u.'s. A single heat unit is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit at atmospheric temperature. Heat units make steam and steam makes power.

Below are tabulated, from some of the highest scientific authorities, the heat values of the commoner combustibles contained in coal:

SUBSTANCE	B. t. u. Per Lb.	
Acetylene Gas	21,465	Included in the "Volatile Matter" of proximate analysis.
Marsh Gas	23,515	
Olefiant Gas	21,345	
Hydrogen Gas	62,035	
Carbon	14,450	"Fixed Carbon" of proximate analysis.

## CLINCHFIELD COAL IS HIGH IN HEAT VALUE

Clinchfield coal is rich in Hydrogen and the Hydro-Carbon gases shown above. These "VOLATILE" gases burn above the fuel bed with rapidity and great intensity in close proximity to the boiler surfaces. Quick liberation of heat units means quick generation of steam; hence the economy in using Clinchfield coal which maintains boilers at high capacity easily and continuously, thus delivering more than the rated horsepower. Clinchfield coal ranges from 14,000 to 14,700 heat units per pound, because it contains small percentages of oxygen, moisture and ash, which are valueless, and large percentages of the combustibles highest in heat value.

### OUTPUT OF MINES OF

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2,000,000 Tons Per Annum, and Growing

## CLINCHFIELD FUEL COMPANY

Selling Agent

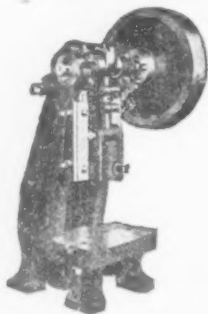
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You will find our prices and goods "RIGHT"  
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Send for Metal sample plate. Erdle Perforating Co., Rochester, N. Y.

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### Bliss No. 8 Bench Press

This press, particularly adapted to take the place of foot presses, is used for small-hole punching, blanking, forming, etc., in the manufacture of burners, small metal goods, light jewelry work, etc. Send for description.

"Presses for Every Purpose."

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SYRACUSE, N. Y., U. S. A.





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1863



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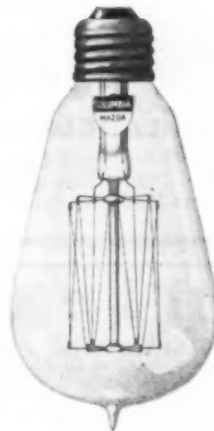
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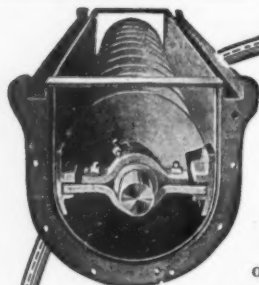
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## HELICOID

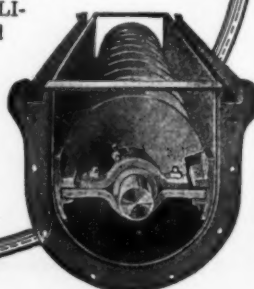
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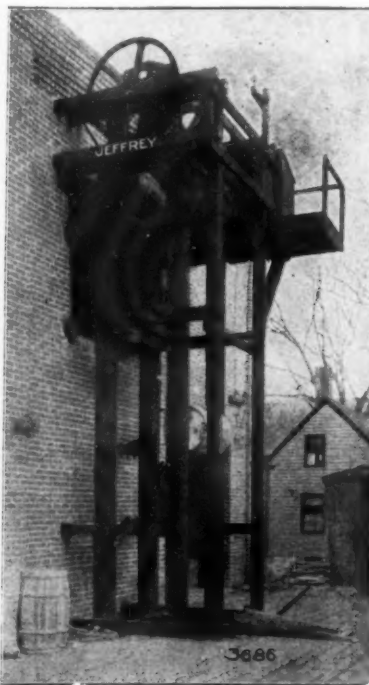


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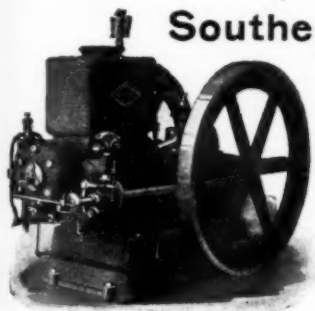
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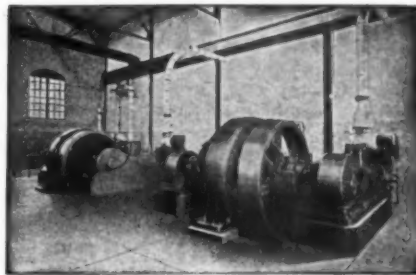


## Ball Engines

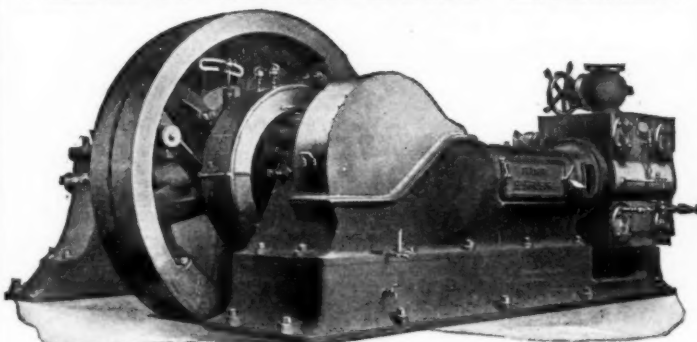
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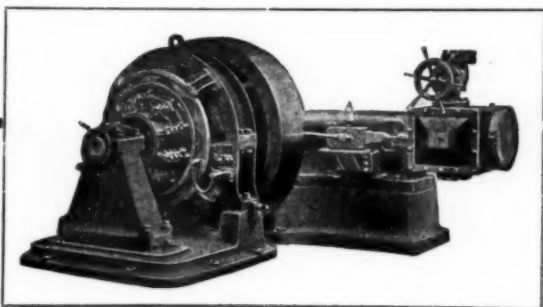
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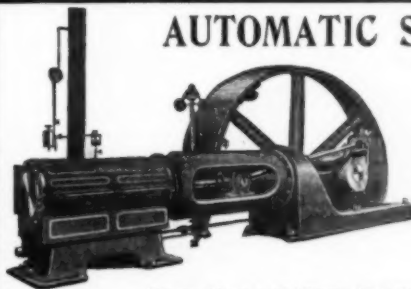
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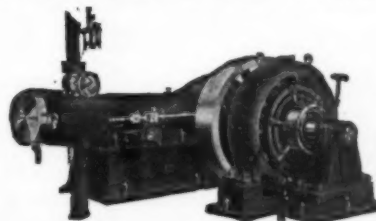
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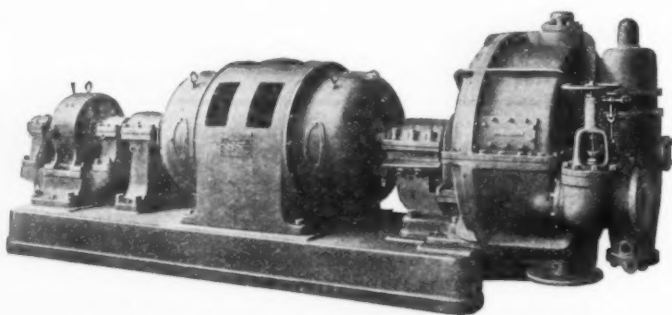
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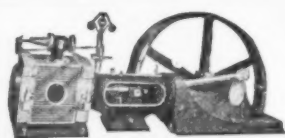
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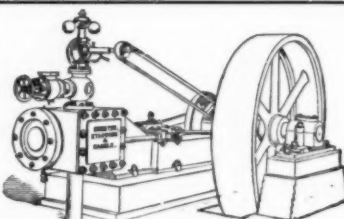


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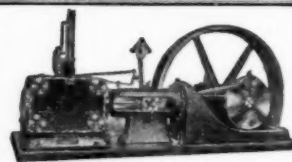


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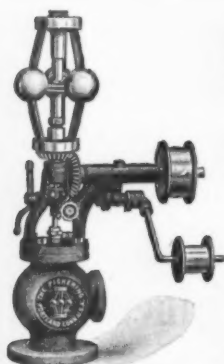
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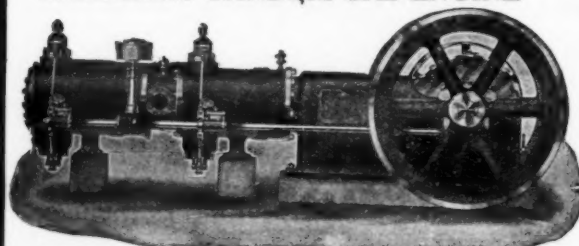
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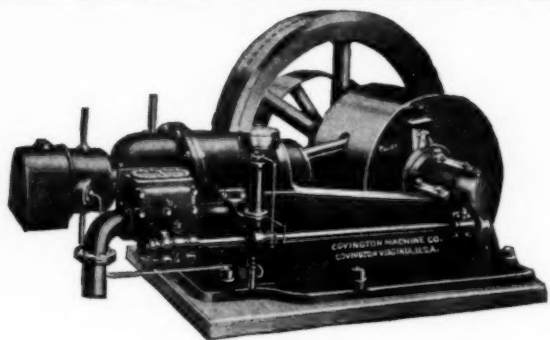
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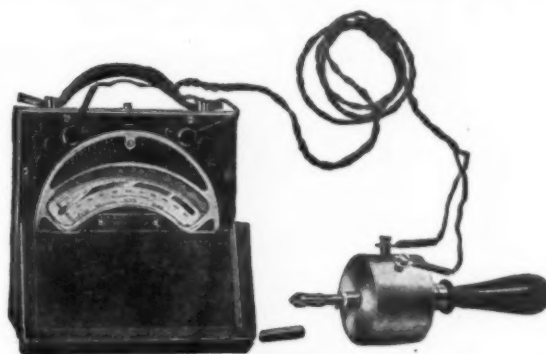
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Practically nothing to get out of order. No joints or parts to wear and cause lost motion. Reads absolutely steady at all speeds. Unaffected by temperatures varying from 0 centigrade to 50 degrees centigrade. Made in portable and switchboard types. Any speed range. In the portable type the magneto is used like an ordinary tachometer, as illustration shows. Flexible leads permit indicating instrument to be placed on testing table—anywhere you please. It is mounted in polished mahogany case with mirror scale and hairline pointer. In every respect this instrument is of the highest grade. Owing to its permanently accurate calibrations, it can be used as standard for calibrating other tachometers.

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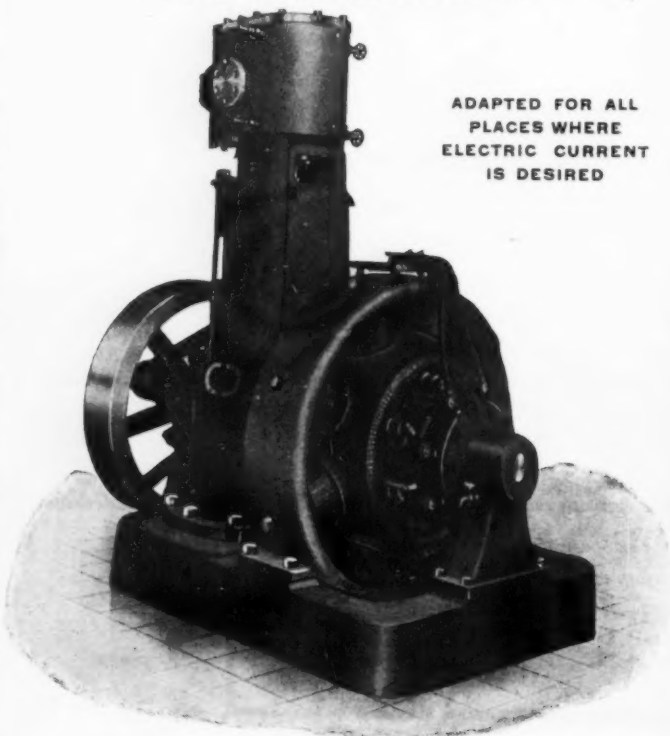


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the lubricating system cannot be excelled. The bearings are large and the best of metal. The material is the best the market affords. The design is the result of many years of most careful study and experience in engine and dynamo building. Every part is made by the latest and most improved methods. We give a binding guarantee as to efficiency, rating, stability and performance.

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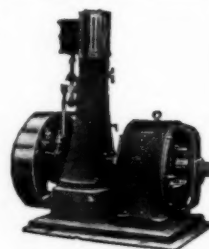
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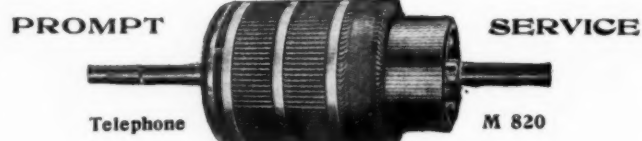
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Mining Machinery a Specialty

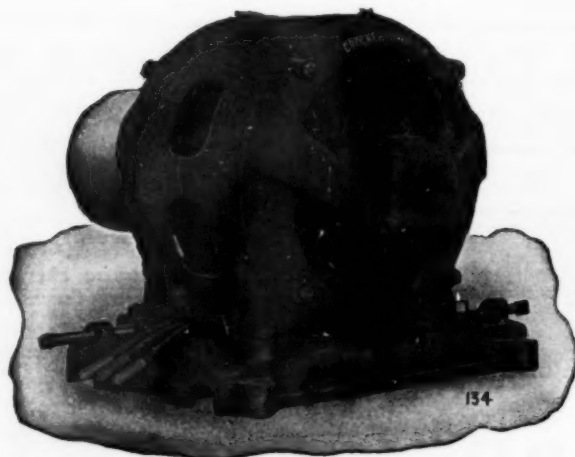
WIRE US AT OUR EXPENSE.

## CROCKER-WHEELER

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All induction motors may be divided into two classes—those using the "open slot" construction and those built on the "closed slot" principle. The open slot construction has the advantage of mechanical convenience, while the closed slot construction has the advantage of electrical efficiency. When the slots are made open, it is much easier to replace damaged coils when for any reason repairs are necessary, but motors made on this principle usually have a lower power-factor and a lower efficiency. The Crocker-Wheeler Motors have a patented means of overcoming this defect, and by means of the magnetic slot bridge, they combine the advantages of both the open and closed slot construction without loss of any other desirable feature. We have a booklet which explains how this is accomplished and we will be glad to send you a copy on request.

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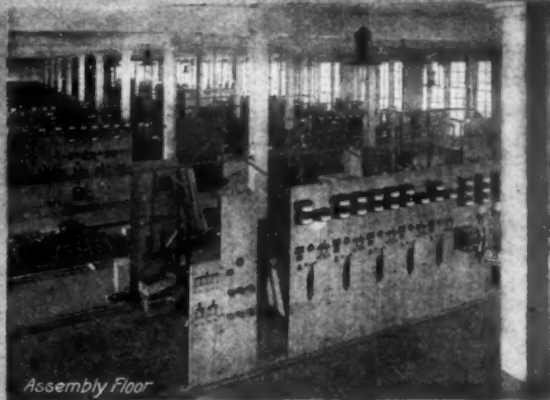
1911

ATLANTA SALES OFFICE, CANDLER BUILDING

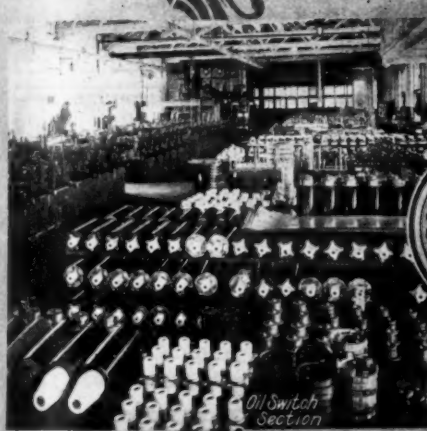
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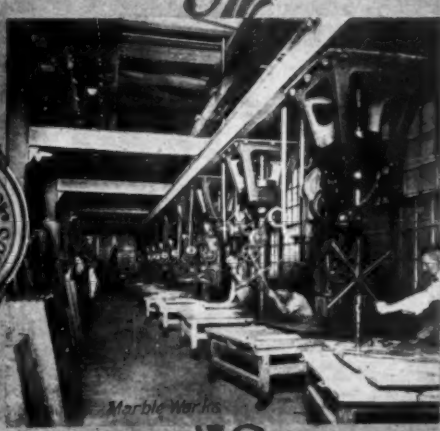
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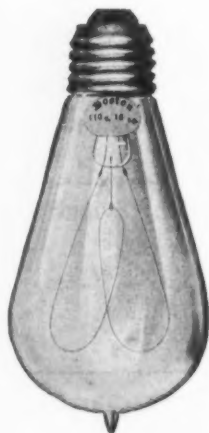
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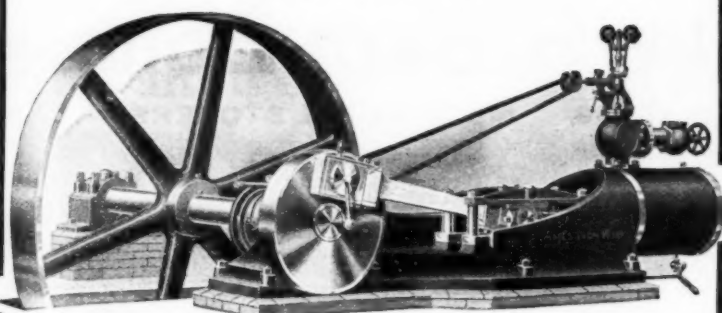
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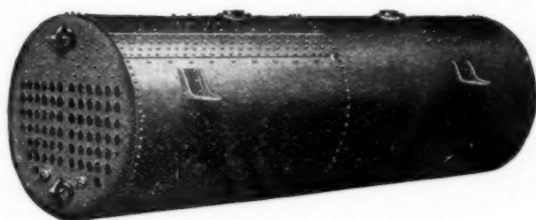
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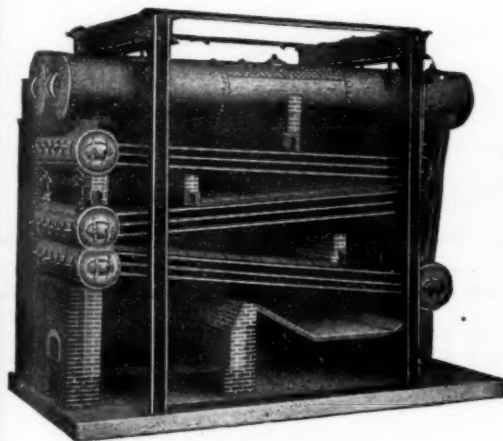
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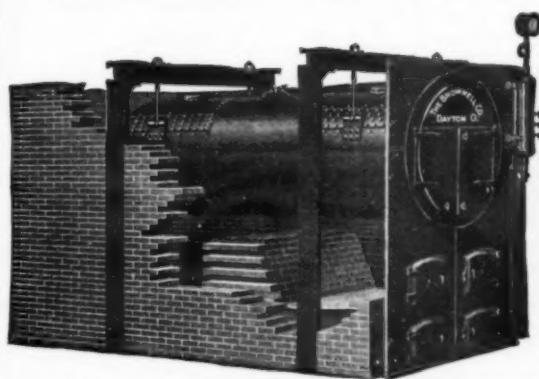


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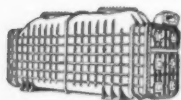
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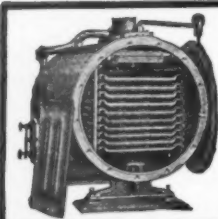
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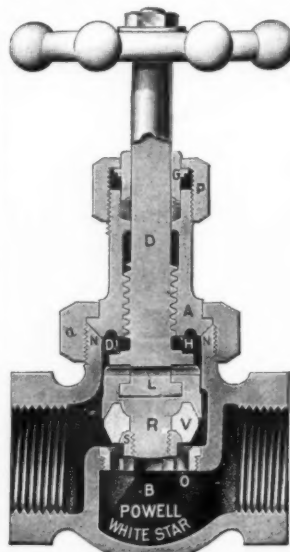
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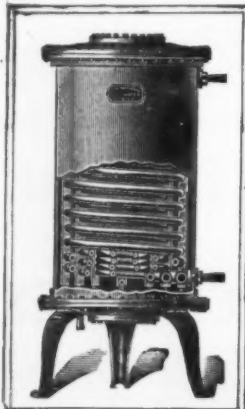
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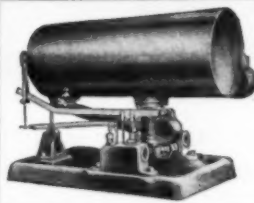
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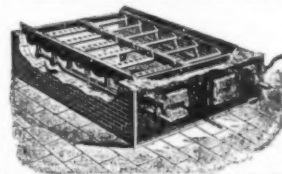
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"Be sure you're right, then go ahead!"

Do you contemplate going into the ice or refrigerating business in any of its various forms?

Do you know that it is a recognized fact among competent and disinterested refrigerating engineers that neither the compression nor absorption system is superior to the other for all purposes and under all conditions, but that each possesses distinct and substantial advantages over the other for some purposes and under some conditions?

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Start right; that is more than half the battle, communicate with

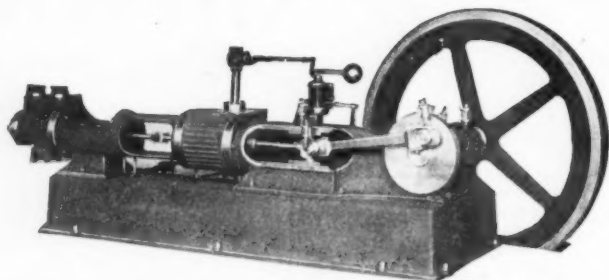
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The goal striven for by makers of artificial ice has always been purity of product, but to meet competition and the demands of economy, that quality has had to be lowered somewhat. By careful study and experimentation we have succeeded in constructing a machine which, without question, turns out ice of unexcelled purity, and does so more economically than any other make, and we invite close comparison and attention to our absorption type.

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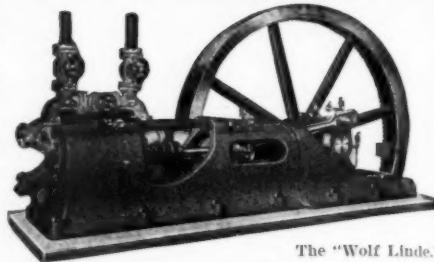
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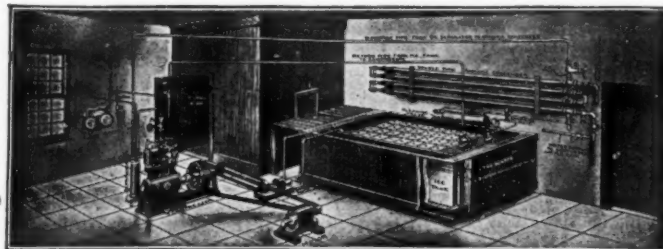
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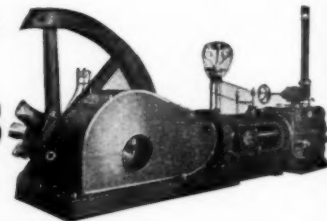
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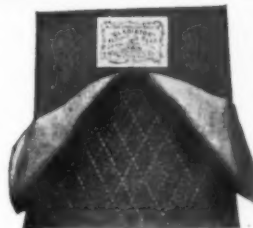
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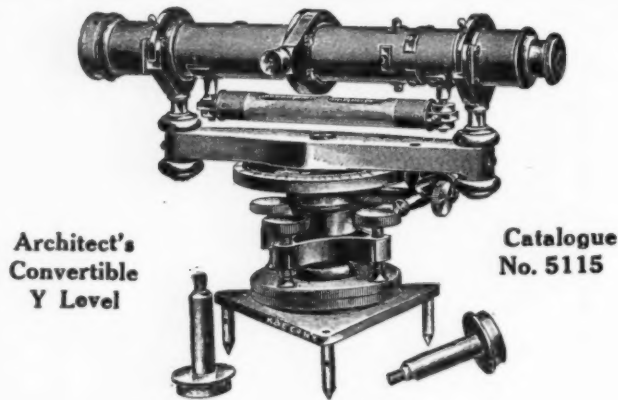
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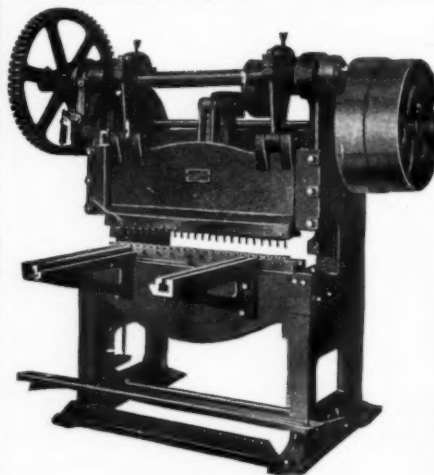
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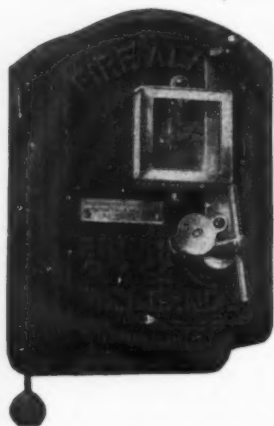


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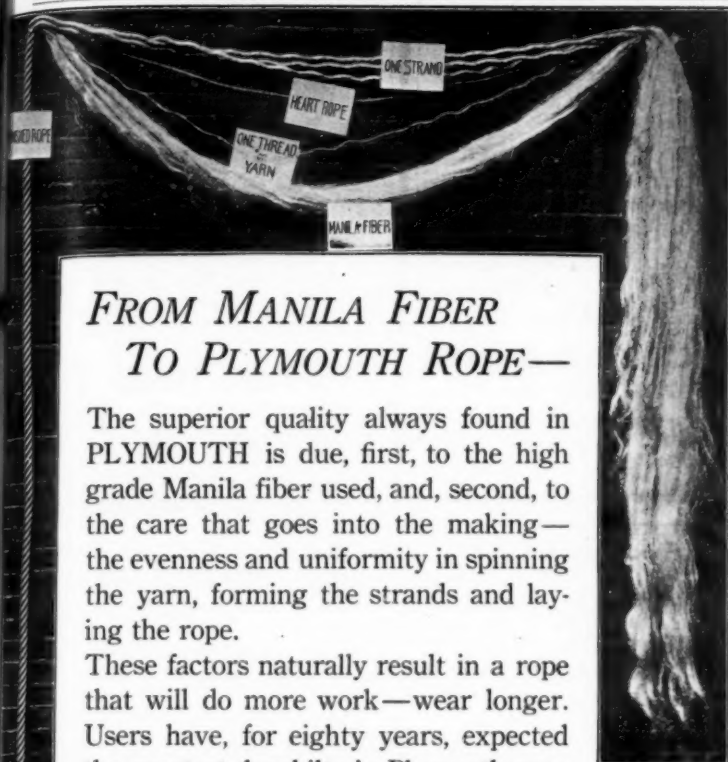
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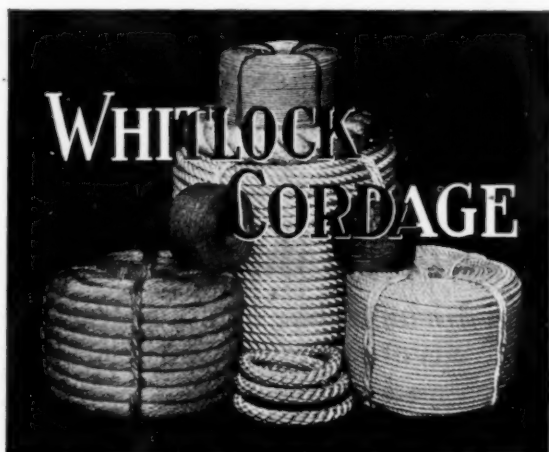
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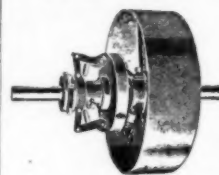
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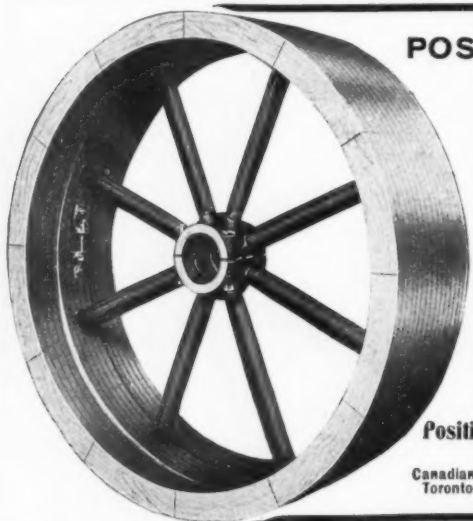
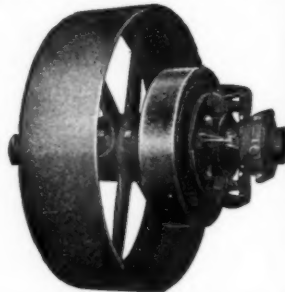
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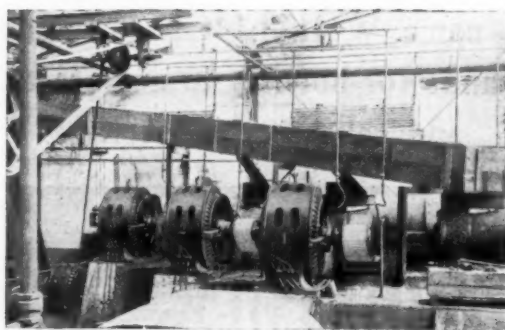
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Are built to transmit a higher percentage of power for progressive manufacturers, who owe their success to a ready grasp of true advancements. Don't you want to progress?

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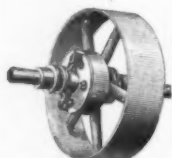
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FRICITION CLUTCH COUPLINGS  
FOR HEAVY WORK

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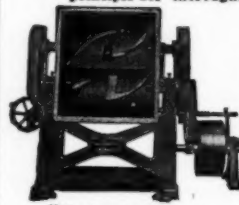
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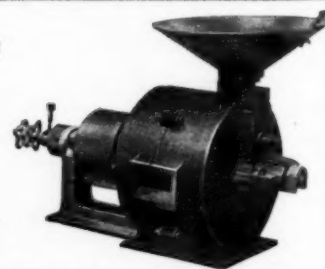
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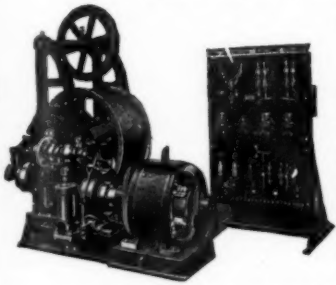
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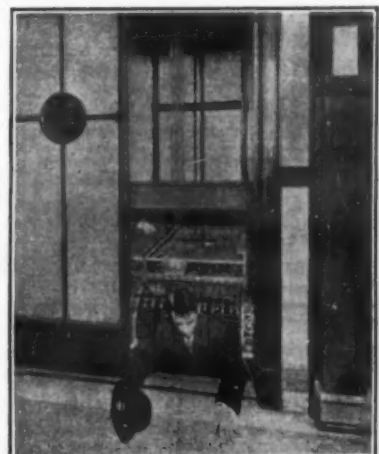
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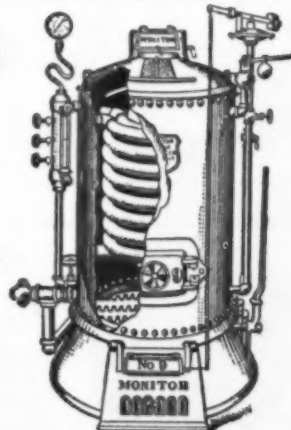
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**CEMENTS** SOUTHERN AGENTS Lehigh and Clinchfield Brands High-grade Portland, **LIME**

Peerless and Snow Drift Brands of White Brick and Plastering Lime.

NOTE—We can reach you at any point in North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Tennessee and Kentucky. Write us.

Agents for the **KILLIAN High-Grade FIRE BRICK**

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Used in the Great Hudson Tunnels and New Terminal Station of the Pennsylvania Railroad, New York.

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**Sand, Gravel, Lime and Cement**

Daily capacity of our sand and gravel plants 4000 tons. Our 25 years' experience enables us to intelligently take care of your requirements. We can handle your orders anywhere in the South. WE are MANUFACTURERS and PRODUCERS, and not brokers. Get our prices B-4-U buy.

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The Recognized Standard American Brand

On the market for the past 20 years. One brand only manufactured, a strictly straight Portland, which in uniformity and general excellence cannot be excelled.

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Strongest and Best

The distribution of our offices and mills enables us to give your orders prompt attention.

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As fine as any on the market. Guaranteed to pass all standard specifications. Used by the U. S. Government in their Ohio River and tributaries work.

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**KOSMOS PORTLAND CEMENT**

used in the most important engineering undertakings because of its high quality. One grade only. Prompt shipments. Let us quote.

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**20th CENTURY PRODUCTS****Tidewater Portland Cement  
Tidewater Hydrated Lime**

Made from the purest raw materials, in the most modern plants, and under the most skillful supervision in the world.

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We produce only one grade—

**THE HIGHEST**

ALWAYS UNIFORM

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Office and Mills—Rockmart, Ga.

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**A Few Important Contracts in which Standard brand Portland Cement was used**

Government Postoffice, Atlanta, Ga.....	3,000 barrels
Atlanta Journal Bldg., Atlanta, Ga.....	4,000 "
(Reinforced concrete.)	
Government Forts, Atlanta, Ga., and Pensacola, Fla.....	2,000 "
Capital City Club, Atlanta, Ga.....	4,000 "
(Reinforced concrete.)	
Imperial Hotel, Atlanta, Ga.....	4,000 "
(Reinforced concrete.)	
Tri-State Hospital, Memphis, Tenn.....	3,000 "
(Reinforced concrete.)	
Pensacola Jail, Pensacola, Fla.....	4,000 "
(Reinforced concrete.)	
Advertiser Building, Montgomery, Ala.....	3,000 "
(Reinforced concrete.)	
Hydro-Electric Plant, Columbus, Ga.....	30,000 "
Water Supply Dam, T. C. I. & R. R. Co., Ensley, Ala.....	60,000 "
Brown-Marx Building, Birmingham, Ala.....	3,000 "
Tunnels at Ropers, Ala.....	10,000 "
(Reinforced concrete.)	
Dillingham St. Bridge, Columbus, Ga.....	20,000 "
(Reinforced concrete.)	

Let Us Furnish **STANDARD** For Your Work

Manufactured by

**Standard Portland Cement Company**

SALES OFFICE: BROWN-MARX BLDG., BIRMINGHAM, ALA.

WORKS: LEEDS, ALABAMA

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## "SECURITY" Portland Cement

(EVERY BARREL GUARANTEED)



Means Permanence and Reliability  
to the Architect, Engineer,  
and Contractor.

## "BERKELEY" Hydrated Lime

Added to concrete insures waterproof and  
verminproof work.

## "ALCA" LIME

(Trade Mark)

Combines all the good qualities of  
old-fashioned lime mortar, with the  
quick hardening qualities of patent  
plasters. It fills a long-felt want.

Cement and Lime Literature Free



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**DAILY CAPACITY 6000 BARRELS**

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We guarantee

Absolute uniformity of product. Prompt Shipment at short notice.  
To meet the most exacting tests. To pass all standard specifications.

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*The Cement of Quality and Economy*

contains less than 1½ per cent. Magnesia.

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BARRELS**

Do you know of any other cement in the South that  
runs as low in Magnesia as this? We do not.

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The latest and most comprehensive  
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concrete factory and warehouse construction,  
showing pictures of two  
hundred and thirty buildings with fifty

interior views, and fac-simile letters from manufacturers occupying these buildings.

Full data on cost per square foot, cost per cubic foot, insurance, etc.

No prospective builder or manufacturer can afford to be without this book.

The book is of particular value to architects and engineers.

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and is the handsomest and most complete book ever published on the subject.

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SOLE SELLING AGENT

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Broad and Chestnut Streets, Philadelphia, Pa.

Works: Fordwick, Va. Capacity: 1,000,000 barrels per annum.

Send four cents in stamps for one-hundred-and-twelve-page book, fully illustrated, showing how to mix and place concrete by hand, how  
to build all kinds of cement farm buildings, troughs, feeding floors, silos, dipping vats, cisterns, sidewalks, etc.

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# M-C

## RAIL-TRACK CONCRETE MIXER

*"Most Mixing Least Fixing."*

"The Most Business-Like  
**MIXER  
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ever  
issued"

### THIS IS THE FAMOUS MARSH-CAPRON Rail-Track TRUNNION

cut off to show style of rail (standard rolled steel).

### THERE ISN'T ANY SECRET

about this, or any other of the "horse-sense" improvements that set this remarkable machine *on a plane of its own* in the Concrete field. Any other makers could have developed the *valuable advances* we have shown. *Why didn't they do it first?* We have not only developed "the most important advance steps ever taken in Concrete Mixer design and construction," but we have *these economical features exclusively.*

THIS SHOWS THE MARSH-CAPRON "RAIL-TRACK" CUT OFF TO SHOW YOU CROSS SECTION OF STANDARD ROLLED STEEL RAIL USED AS TRUNNIONS. NO SCALLOPING. NO BREAKING THROUGH DRUM.

On the Marsh-Capron Rail-Track Mixer this rail is, of course, a complete circle, electrically welded.

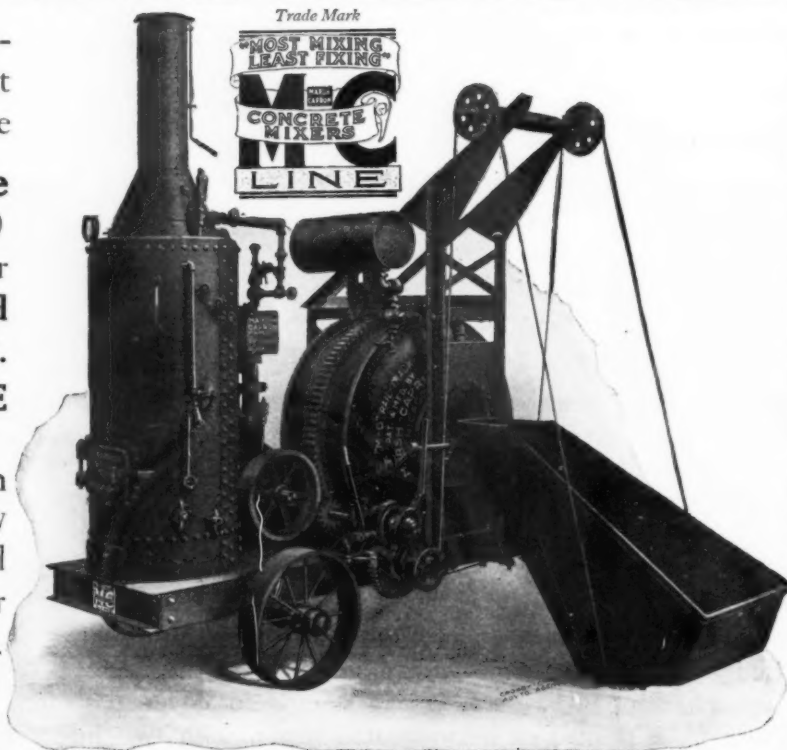
## "MERIT WINS." WE "SWEEPING THE FIELD."

Here is a photograph of the latest model in the

"M-C" Line  
(Non-Tilt Type)  
with steam power  
and **Improved  
SIDE LOADER.**

**STUDY THE  
DETAILS.**

They mean  
money  
saved  
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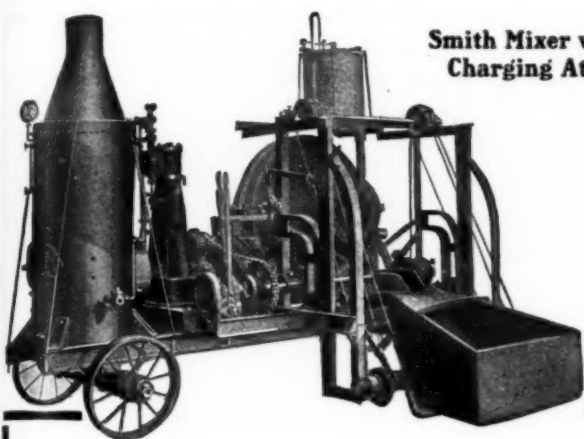
We also  
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**TILTING  
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positively  
the *simplest*  
and most ef-  
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the market.  
*29 Parts  
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The next  
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And 383 Atlantic Avenue, BOSTON



Smith Mixer with Power Charging Attachment

## A FEW POINTERS

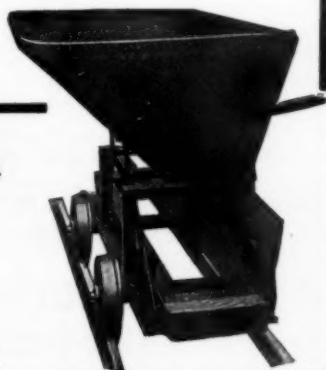
### On Labor-Saving Equipment for Southern Contractors

SMITH MIXERS are well known throughout the South; but contractors are not so well posted on our improved power-charger, illustrated above. The skip is lifted vertically, with the smooth, easy, noiseless action of a passenger elevator. The frame can be extended to serve as a material elevator. Even when thus used, no extra power is required, as the skip goes up while the drum runs empty.

SMITH ELEVATORS save money in handling concrete to levels above the mixer. Built in two types and three sizes. All-steel construction. Automatic dump. Hundreds of elevators in satisfactory operation all over the United States. Every detail worked out to absolute perfection.

SMITH CARS, bottom-dump or side-gate type, for pouring concrete into forms. Low discharge, accurate control. No splashing, no leaking and no damage to the forms.

CONCRETE carts, buckets, hoisting engines, derricks and a complete line of up-to-date machinery for contractors and quarrymen. Write for catalog.



Smith Side-Gate Concrete Car

### The T. L. Smith Company

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Near 605 Marietta St.  
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Home Office: Majestic Bldg.,  
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Little Wonder Concrete Mixer



**E**VERY contractor, big or small, who uses concrete or cement machinery of any kind ought to know about

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OF

Concrete Machinery, Tools and Molds of all kinds.

Gasoline Hoists, Builders' Derricks, Cranes and Material Elevators.

Stone Crushers, Sand and Stone Screens, and Elevators.

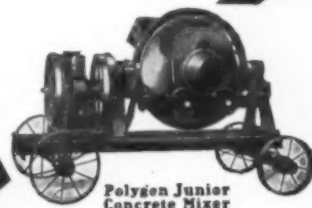
Send today for descriptive literature.

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#### DEALERS:

Write for catalog and particulars of our selling proposition. You will be interested when you know details.



Polygon Junior Concrete Mixer



### Milwaukee Mixers Lead

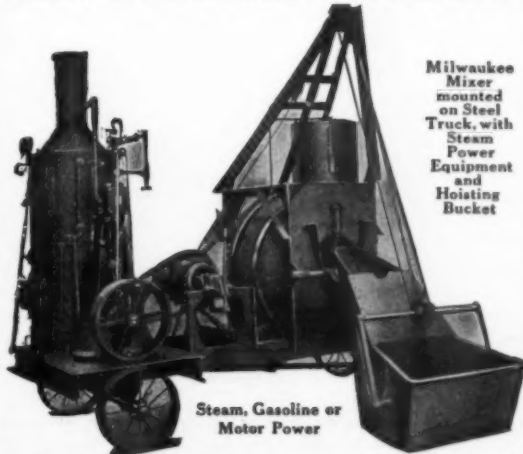
#### OUR PROPOSITION

We will put a Milwaukee on your work. Test it out in your own way. Abuse it. Don't oil it. Don't block it up. And after using it for five days accept it or turn it down. You to be the judge as to whether or not the Milwaukee is superior to any Mixer that you have ever used. All we ask is a chance to show you.

#### A SQUARE DEAL—WHY WE LEAD

Because our proposition is fair and square and our guarantee unequalled. Because you do not have to block up the Milwaukee, as is necessary with other Mixers.

## NOT KNOCKING JUST BOOSTING THE MILWAUKEE



Milwaukee Mixer mounted on Steel Truck, with Steam Power Equipment and Hoisting Bucket

Steam, Gasoline or Motor Power

Because they hold more than we claim and have excess power for operating.

Because they can be moved from place to place without dismantling or taking out one bolt.

Because it is only necessary to oil the tracker wheels once a month.

Because they are guaranteed five times longer than our nearest competitors.

MILWAUKEE CONCRETE MIXER AND MACHINERY CO.  
MILWAUKEE, WIS., U. S. A.



# FOOD FOR THOUGHT

The Great Disaster at Austin, Pa., Warrants us in Once More Emphasizing the Tremendous Superiority of the

## REINFORCED CONCRETE DAM

Over the Truly Archaic Type Known as the "Solid" Dam.

The Bayless dam at Austin, Pa., was designed on theoretically correct lines, but went out because of upward static pressure on the base. A full appreciation of this always present but subtle danger, which has wiped out many otherwise substantial dams, was appreciated by us from the beginning and resulted in the design of a dam *without any base*, so to speak, on which the upward thrust of water can act.

We further appreciated the importance of eliminating any possible concealed defect by leaving every square foot of the dam wide open to inspection from the inside.

We further appreciated the paramount importance of so designing the shape that the thrust pressures on the foundations of the dam were uniform over the whole base so that there could be no culmination of pressure at the point of greatest weakness as is inevitable with the "solid" dam.

When to all this we added a full appreciation of the value of a heavy vertical component of the water pressure itself to assist in holding the dam in place, we realized that we had advanced the science of Hydraulic Engineering at one step further perhaps than has been done in all the preceding years since it became a science.

That this view is neither egotistical nor unwarrantable is evidenced by the fact that no engineer seriously attempts to controvert our position.



WRECK OF THE "SOLID" DAM AT AUSTIN, PA., Showing Bulkhead Section.

great impressiveness and need no comment.

Now what are the facts of experience? Summarize the actual record of authentic failures taken from the various Engineering papers, covering a period of substantially 21 years, from 1890 to date. During this period there have been disastrous failures in the United States and Canada.

Of Solid Dams.....	35
Of Earth Dams.....	41
Of Rock Fill Dams.....	4
Of Structural Steel Dams	
(the only one ever built)	1
Total Failures.....	81

Of Ambursen Reinforced Concrete Dams.....	NONE
---	------

Speaking of "solid" dams only, most of the above failed within a

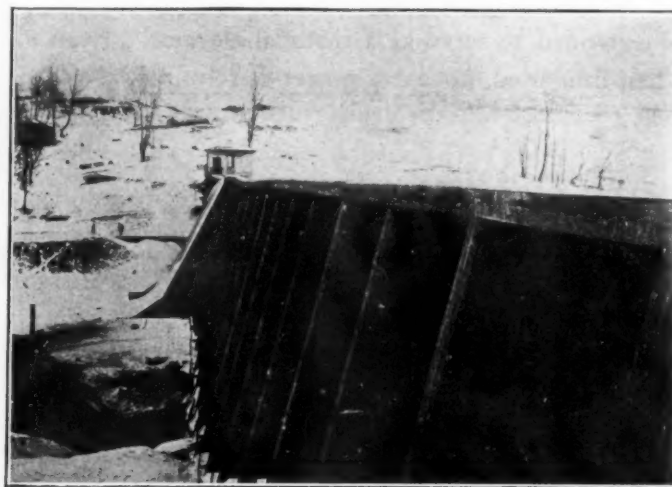


PITTSFIELD REINFORCED CONCRETE DAM. Re-levelled and Re-filled after Blow-out.

The Dams of the La Crosse Power Co. at Dells and at Hatfield, Wis., and the Dam of the Marathon Paper Mills at Rothschild, Wis., were undamaged as to the concrete rollways, but the earth embankment extensions of all three were washed out, resulting in enormous damage. The use of reinforced concrete as a hydraulic material to a large extent does away with the necessity of the economy of embankment extensions, a plain hollow bulkhead being substituted.

It is interesting to us to note that the owners of all of the above mentioned dams were at one time in negotiation with us. We endeavored to secure the contracts, but were unsuccessful. It is assuming nothing to say that had we built these dams they would have been intact today without the loss of a dollar or a life. During the same flood season which wrecked the Wisconsin dams, we had four general dams in that general district, on which the same flood was merely a negligible question, scarcely arousing interest.

The half-tones printed herewith afford an object lesson of



PITTSFIELD REINFORCED CONCRETE DAM. View of Blow-out showing the Slight Sag

few months up to two years after their completion, and hence failed from inherent defect. It is not sufficient to say that hundreds more are still standing. *How near have they been to failure?* What positive assurance is there that under another foot of flood others would not have failed? Absolutely no assurance—and what is worse no conclusive way to arrive at such an assurance.

Sixty-six Ambursen dams have been built to date. They are on all kinds of foundations—rock, gravel, sand, and even on quick-sand. They have been subjected to every kind of flood and ice gorge—one has stood up under a "shove" of dry ice—two have been dynamited—and one has had a steel highway bridge dropped on it—the Pittsfield dam, illustrated above, has had the foundation washed out from under it—and still the dam stood and is standing today.

Let us be candid to recognize that a "solid" dam *when built within the investment limit*, is in its inherent and inevitable design essentially a risk—that is, its design necessarily involves a trespass upon stability to the very last margin of safety.

Herein is Food for Thought. Very respectfully submitted.

### Ambursen Hydraulic Construction Co.

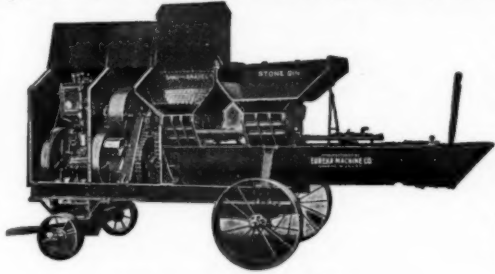
88 PEARL ST., BOSTON, MASS.

165 BROADWAY, NEW YORK CITY

All inquiries from Canada should be referred to Ambursen Hydraulic Construction Co. of Canada, Ltd., 405 Dorchester, West, Montreal, P. Q.

## The Eureka Proposal

We propose to ship to any responsible Party, anywhere, such equipment as may be selected, subject to satisfactory demonstration. This proposal is



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General Eastern Agents, W. V. Johnson & Co., 1 Madison Ave., New York.  
Southern Agent, C. H. Quereaux, 424-5-6 Brown-Marx, Birmingham, Ala.

made in good Faith—is absolutely square and gives every buyer a chance to exercise his best judgment of the mixer's merit on actual work. Ask for Catalog L.

## LIME KILNS

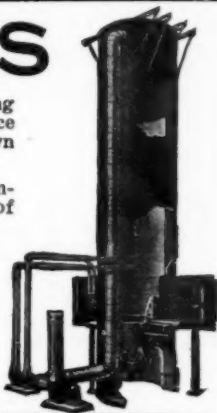
Our lime kilns are really high-class lime making machines, with every detail worked out to reduce the losses which increase costs and which cut down profits.

They are built for permanent, profitable performance; and the owner may feel the assurance of satisfaction which comes from the knowledge that his equipment is the best which engineering skill and experience can produce. Bulletin No. 4 on request.

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COMBUSTION ENGINEERS

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A Reinforcing Fabric of HIGH ELASTIC LIMIT, Providing CONTINUOUS BOND

Made 56 Inches Wide, 330 Feet Long  
Shipped in Rolls

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SAVE 3 CENTS per SQ. FT. on  
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For Concrete Roofing and Ballast. All sizes. Prompt deliveries.

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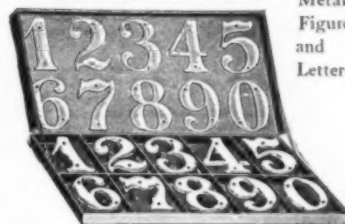
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Height 165'; Inside Diameter at top 6' 6"

Built for

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Square  
Cold Twisted

Highest  
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Greatest Strength  
All Sizes

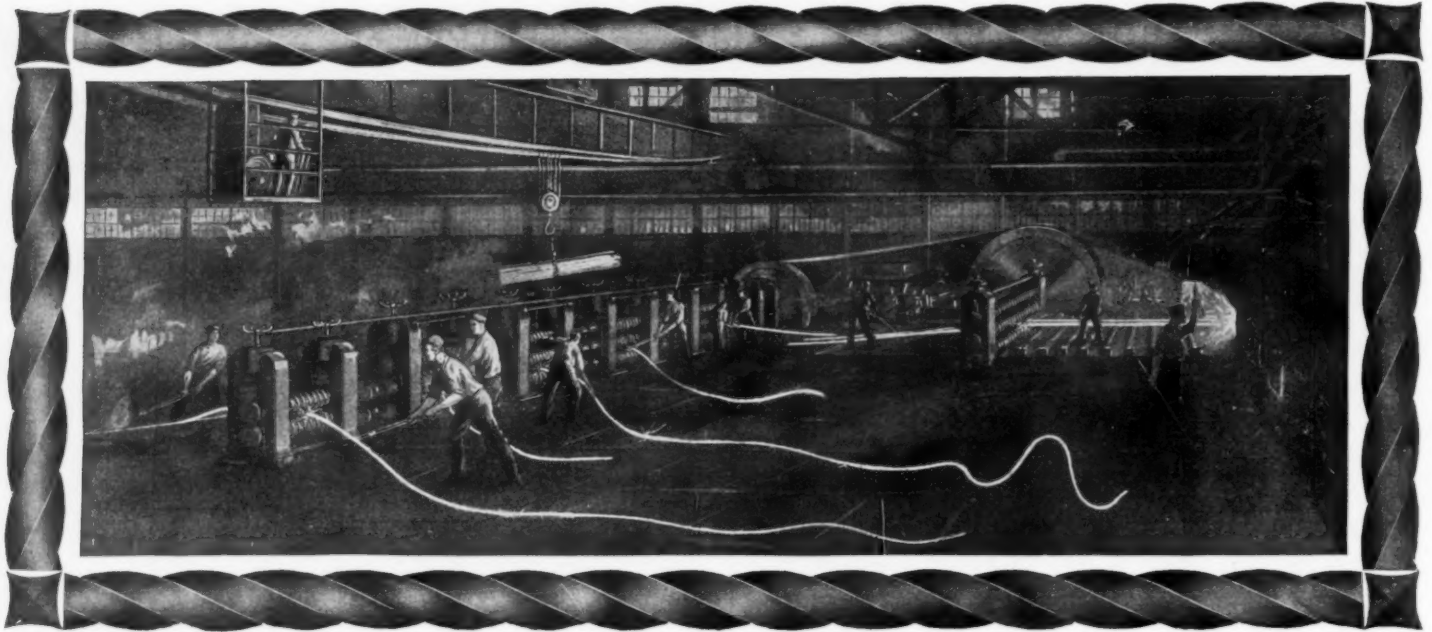
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AMERICAN IRON & STEEL WORKS

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We have now completed our new building, designed for storing a larger stock of Reinforcing Steel, and equipped with devices for rapid and economical fabrication in accordance with specifications of our customers.

If you will forward us your plans showing the reinforcement desired, we will submit you promptly a lump sum bid for the steel required, cut to length, bent to specifications, and delivered on the job all ready to set in the forms.

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### STEEL FOR CONCRETE REINFORCEMENT

FLATS  
ROUNDS  
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WE WILL  
GUARANTEE  
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**FRANKLIN STEEL CO., FRANKLIN, PA.**

**To Concrete Bar Purchasers:**

*Why should you pay for extra metal?* The projections and deformations of

**HAVEMEYER BARS**

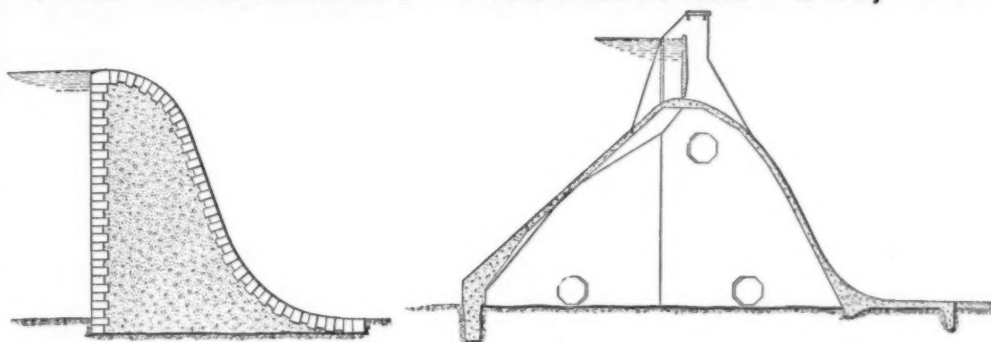
(round or square) enter directly into the tensile strength of the bar and no metal is wasted to secure a bond only. The contractor will use the same amount of steel when using **HAVEMEYER BARS** as if plain bars were used, because "**EVERY POUND PULLS**". Prompt shipments. Large stock.

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**Hollow Concrete  
Dams**

(PATENTED)



**THE OLD**

80 cubic yards of masonry per lineal foot.  
Factor of safety 1.9

The old dam failed due to loss of weight caused by water getting under its base and by sliding.  
The new **Hydraulic Properties Co.'s** dam is designed on principles which absolutely prevent failure.  
The Hollow Dam will stand firm even if the foundation proves faulty.

**THE NEW**

22 cubic yards of masonry per lineal foot.  
Factor of safety 5.0 +

The comparison of the Old and New dam at Austin, Texas (being rebuilt by this company), demonstrates that **economy and safety** are both attainable. In view of numerous failures of solid dams, engineers should carefully consider the merits of our hollow dam before deciding the vital question of type to be adopted.

**"TIME SAVED IS MONEY SAVED"**

Place your orders for

**IMMEDIATE SHIPMENT**

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Full stocks of Beams, Channels, Angles, Tees, Sheared and Universal Plates, Checkered Plated, Rounds, Flats and Squares, Plain Rounds, Squares and Cold Twisted Squares for Concrete Reinforcement, are carried at each of the warehouses.

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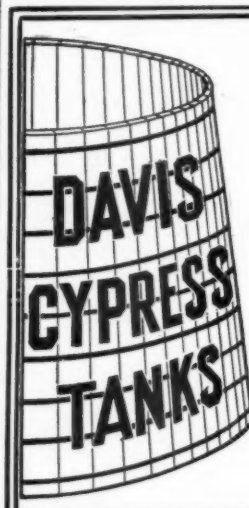




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**A 90 MILE GALE**  
 did not so much as budge this  
**CALDWELL TANK AND TOWER**

See what our customer writes:  
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 Messrs. W. E. Caldwell Co.,  
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 Dear Sirs—You will perhaps be gratified to  
 hear that the Tank and Tower which you erected  
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 damage whatever.  
 The velocity of the wind was estimated from  
 70 to 90 miles an hour, and we are situated in an  
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 By J. W. C. Wright, Vice-President.  
 Tank is of 20,000 gallons capacity, and tower  
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**W. E. CALDWELL COMPANY, Louisville, Ky.**  
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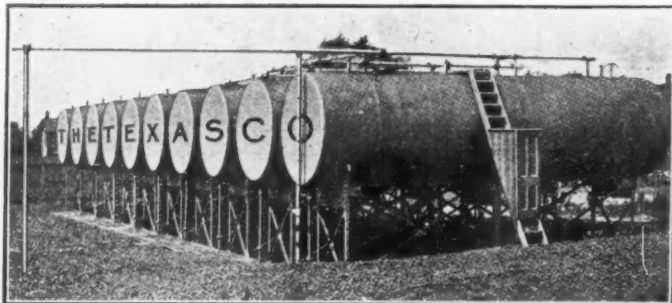


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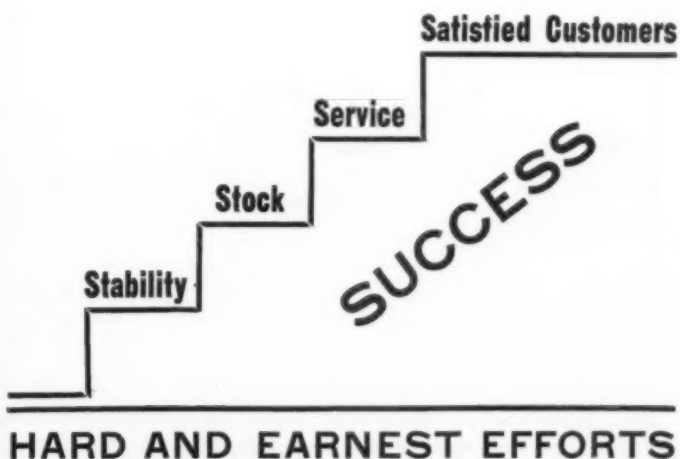
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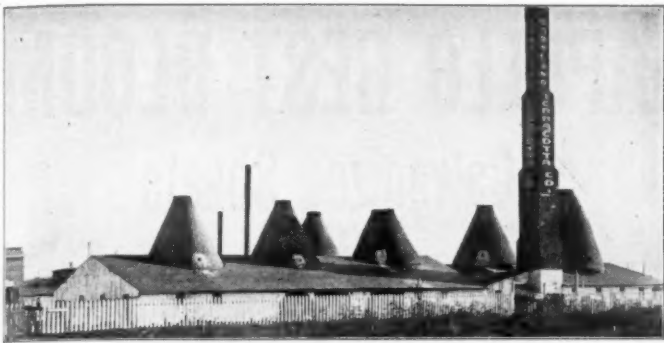
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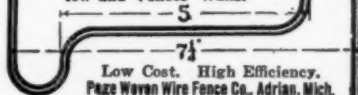
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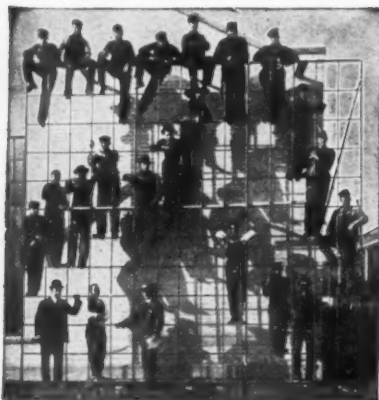
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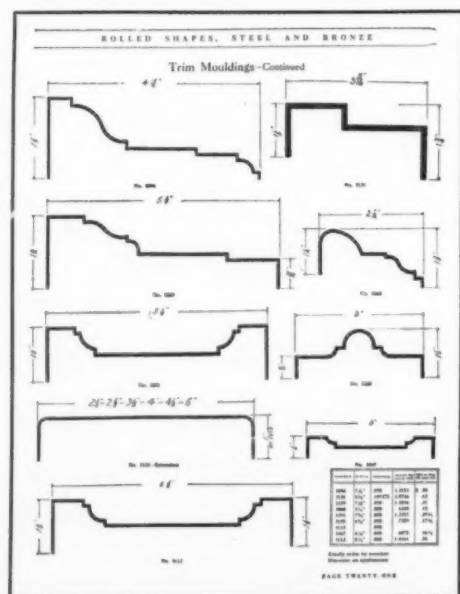
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Original Plant put in operation in 1902.

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Black Sheets,	20,000 "
Galvanized Sheets,	12,000 "
Black and Galvanized Pipe,	33,000 "

**TOTAL 85,000 TONS**

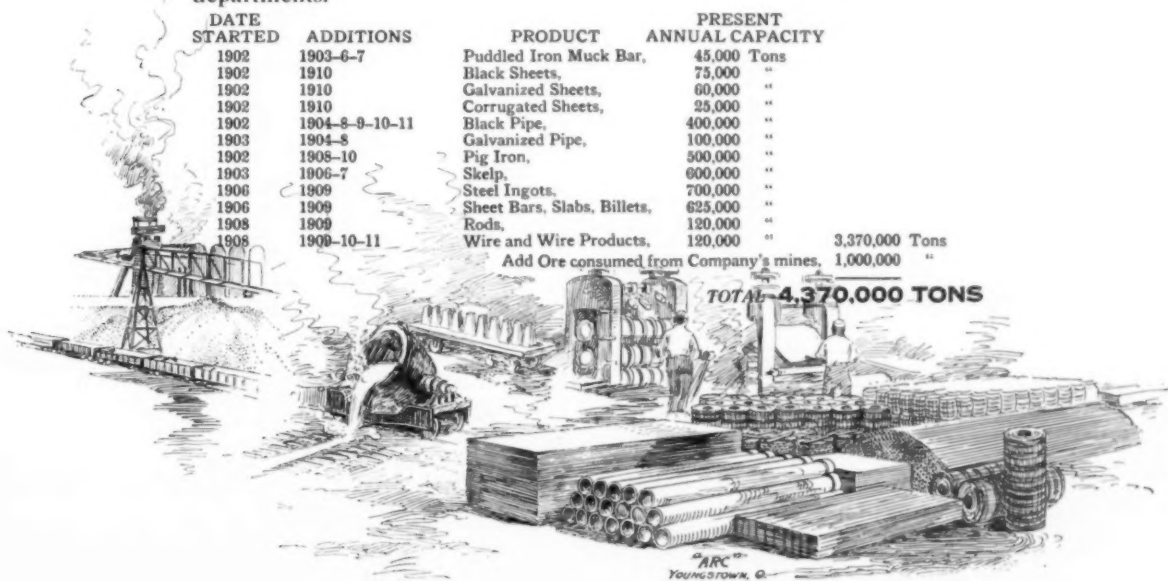
In the beginning the Company was dependent upon others for pig iron, steel, skelp, etc. Below is shown the dates when new departments were acquired or put into operation, with the present capacity of all departments.

DATE STARTED	ADDITIONS	PRODUCT	PRESENT ANNUAL CAPACITY
1902	1903-6-7	Puddled Iron Muck Bar,	45,000 Tons
1902	1910	Black Sheets,	75,000 "
1902	1910	Galvanized Sheets,	60,000 "
1902	1910	Corrugated Sheets,	25,000 "
1902	1904-8-9-10-11	Black Pipe,	400,000 "
1903	1904-8	Galvanized Pipe,	100,000 "
1902	1908-10	Pig Iron,	500,000 "
1903	1906-7	Skelp,	600,000 "
1906	1909	Steel Ingots,	700,000 "
1906	1909	Sheet Bars, Slabs, Billets,	625,000 "
1908	1909	Rods,	120,000 "
1908	1909-10-11	Wire and Wire Products,	120,000 "

3,370,000 Tons

Add Ore consumed from Company's mines, 1,000,000 "

**TOTAL 4,370,000 TONS**



ARC  
Youngstown, O.

DOUBLE  
REFINED  
PUDDLED

**IRON ROOFING**

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# Barrett Specification Roofs

Modern Concrete Plant of Doubleday,  
Page & Co., Garden City, New York,  
Kirby, Petit & Green, Engineers



## For Modern Concrete Structures

THE popularity of Barrett Specification Roofs on modern concrete factories, railroad buildings and commercial establishments is significant. Such buildings represent the "last word" in building construction.

Concrete is used for its permanence, its fire-proof qualities, its low maintenance expense, etc., and Barrett Specification Roofs are chosen to cover such buildings as the result of equally intelligent examination into net unit costs.

The Barrett Specification Roof needs no

painting or attention of any kind. The total roof expense figures out about  $\frac{1}{4}c.$  per square foot per year of service, a figure absolutely unapproached by any other roofing.

Roofs of this type take the base rate of insurance and are classed "slow burning construction."

The Barrett Specification describes the method of using Specification Pitch and Specification Felt so as to secure the very best roofing service.

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The Standard Finishing Plaster

Always sets uniformly. Pure white. Unusually strong. Cool working. You can't get a better plaster for finishing walls and ceilings.

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The whitest and glossiest white made. Remains white permanently. Reflects the light. Will not hold the dust. Free samples for testing purposes.

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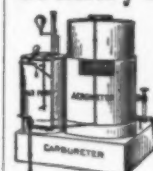
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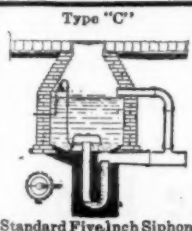
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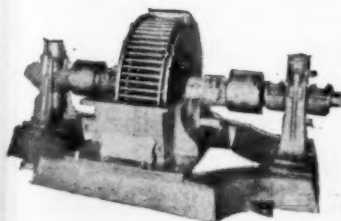
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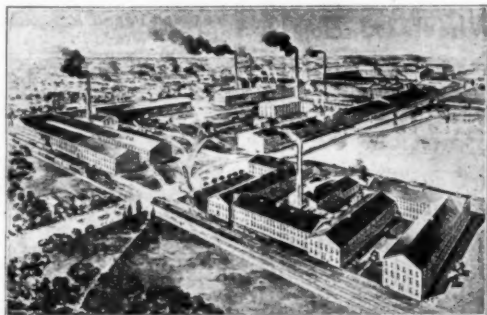
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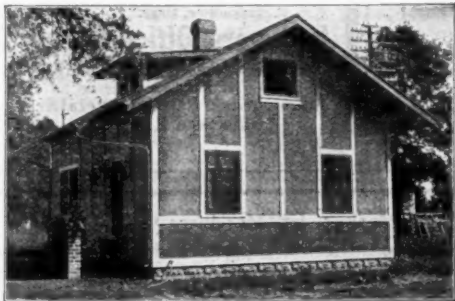
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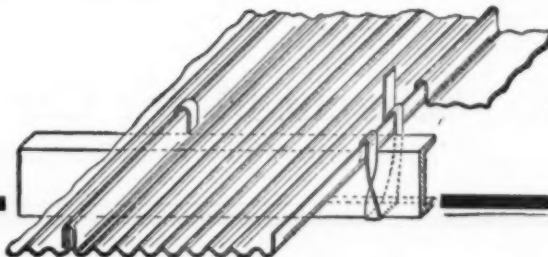
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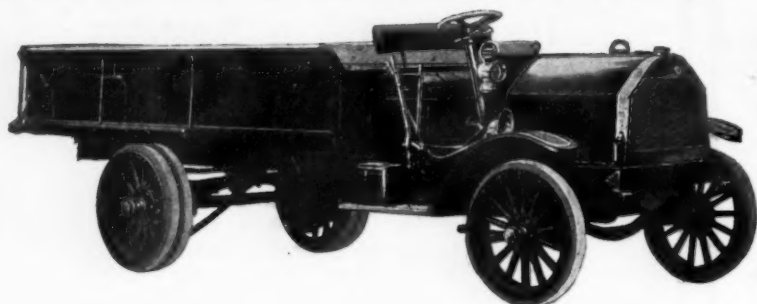
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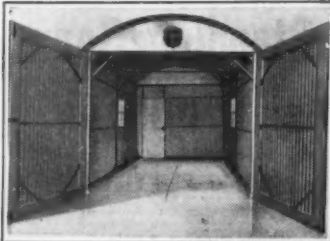
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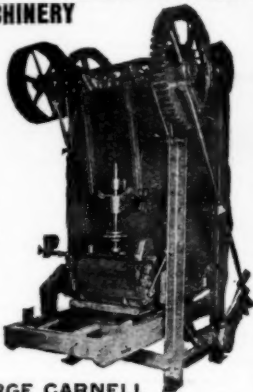
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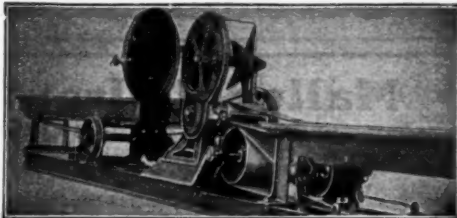
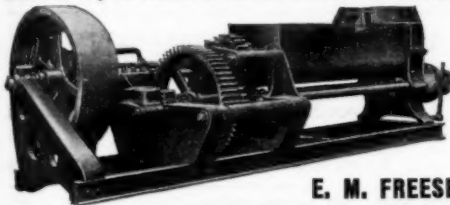
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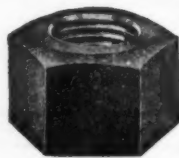
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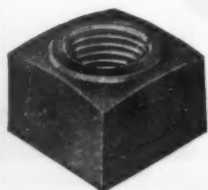


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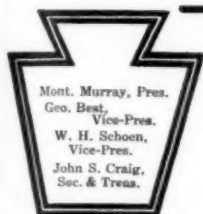
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Never was product so victimized by prejudice as was this nail of our forefathers and our future sons.

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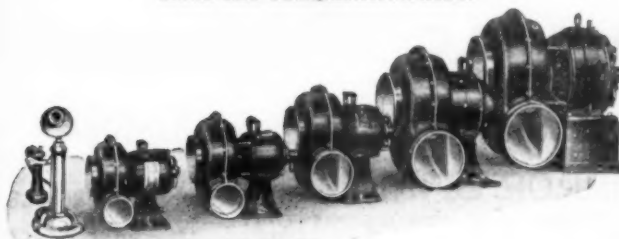
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879

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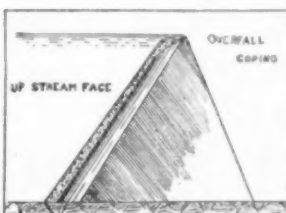
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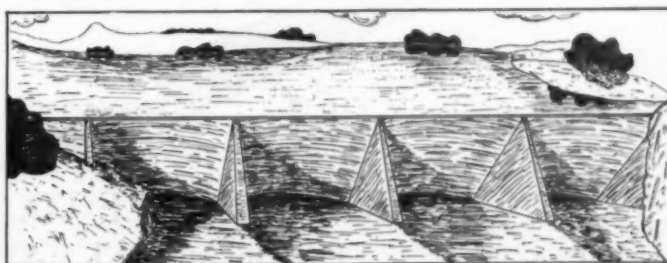
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Patentee: **GEO. E. LADSHAW**  
Civil and Hydraulic Engineer  
Spartanburg, S. C.





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**Fire Chief Croker Says of the  
DAHLSTROM PRODUCTS**

At the International Municipal Congress, Chicago, Sept. 29th, Edward F. Croker, Ex-Chief of New York City's Fire Dept., said:

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Trenton, N. J.

# MANUFACTURERS RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

Trade-Name Registered in the U. S. Patent Office

Vol. LX. No. 19.  
WEEKLY.

BALTIMORE, NOVEMBER 16, 1911

\$4.00 A YEAR.  
SINGLE COPIES, 15 CENTS.

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BALTIMORE, NOVEMBER 16, 1911.

## THE SOUTH AS A FIELD FOR INVESTMENT.

"I would rather invest in the southern part of our country than elsewhere, for, in my opinion, that is the section that is to share more than the North, East or West in the future enhancement of values," were the opening words of an interview with Frank J. Gould of New York, published in the MANUFACTURERS RECORD of October 26, in which Mr. Gould dwelt especially upon the Richmond-Norfolk section of Virginia as illustrating what will take place in growth throughout the Eastern or Central South. He has shown his faith in the South by putting some millions of dollars into development enterprises in that section, and the Virginia Railway & Power Co., in which he is largely interested, controlling the street railways of Richmond and Norfolk, is planning to spend much money within the next few years, including \$600,000 for a new power plant at Richmond to meet the increasing demand there for electric current. Additional evidence of this firm belief in the future of the territory embracing Richmond, Norfolk, Petersburg, Portsmouth and Suffolk is given in the fact that the Virginia Railway & Power Co. is beginning in this issue of the MANUFACTURERS RECORD an advertising campaign on lines which it describes as follows:

We believe so firmly that this territory has so many advantages and will become so prosperous as a center for manufacturing and mercantile business that we have bought a page in the MANUFACTURERS RECORD, every other week, for the next 12 months, and will try to show why business men should come and make their homes and fortunes here.

## A CENTURY OF SOUTHERN COAL PRODUCTION.

Of 12,000,000,000 tons of coal that have been mined in this country, more than 2,000,000,000 tons have been mined in the South. It was known more than 210 years ago that coal deposits were in what is called the Richmond basin of Virginia, included in the present Chesterfield, Henrico, Powhatan and Goochland counties, and well-informed readers of the economic history of this country know that coal was shipped from that region to the North as early as 122 years ago. Official figures show that since that time the South has produced more than 2,000,000,000 tons of coal, and that since 1814, something less than a century, more than 1,500,000,000 tons, the latter figures not including waste. The figures of production between 1814 and 1910, inclusive, by separate Southern States and for the country as a whole, together with those of the estimated original supply of coal, are given in the following table:

States.	Mined. Short tons.	Original supply. Short tons.
Alabama.....	206,153,815	68,503,000,000
Arkansas.....	39,117,873	1,887,000,000
Georgia.....	8,776,859	903,000,000
Kentucky.....	157,371,830	104,028,000,000
Maryland.....	161,224,097	8,044,000,000
Missouri.....	107,674,284	40,000,000,000
North Carolina..	476,805	200,000,000
Oklahoma.....	48,558,734	79,278,000,000
Tennessee.....	103,983,797	25,665,000,000
Texas.....	20,056,941	31,000,000,000
Virginia.....	72,748,408	22,500,000,000
West Virginia....	589,616,621	231,039,000,000
Total.....	1,507,360,174	613,477,000,000
United States....	8,243,351,259	3,137,243,000,000

The figures for Virginia in this table date back only to 1822, when the 54,000 tons of bituminous of that State and the 4583 tons of anthracite produced in Pennsylvania constituted the output of the country. The Kentucky figures date from the 238 tons of 1828 in that State; the Missouri, from the 9972 tons of 1840; the Alabama, from the 946 tons; the Tennessee, from the 558 tons; the Arkansas, from the 220 tons, and the North Carolina, from the 3 tons of the same year; the Maryland, from the 3000 tons of 1820; the Georgia, from the 1900 tons of 1860; the Oklahoma, from the 5800 tons of 1870, and the Texas, from the 125,000 tons of 1884. The West Virginia figures, leading the South and constituting more than a third of the total, date back to 1863, after the excision of that portion of the State of Virginia from the older Commonwealth, and that separation was responsible for the drop of production credited to Virginia from 445,124 tons in 1862 to 40,000 in 1863, West Virginia in the latter year being credited with 444,648 tons.

The real development of Southern coal resources began about 1880, when 7,000,000 tons of the 71,000,000 tons produced in the country were mined in the South. Since then the South has been contributing a greater and greater amount to the total output, and in 1910 mined 120,000,000 tons of the total 500,000,000 tons, Missouri and Oklahoma being included in the South.

Just as coal-mining in the whole

country has hardly made an appreciable impression upon the total supply of coal, so, if the South should continue to mine coal at the rate of last year, it would take more than 5000 years to exhaust the estimated supply. There are in the South 88,000 square miles of workable coal fields, more than a quarter of such area in the country. There are, besides, 6000 square miles in Alabama, 5900 square miles in Arkansas, 6000 square miles in Missouri and 58,300 square miles in Texas that may contain workable coal, while, in addition, there are 84,000 square miles of lignite in that section, especially in Louisiana, Mississippi and Texas. So, there are nearly 150,000 square miles of land in the South underlaid with coal or lignite, and a supply of 612,000,000,000 tons of bituminous coal.

## THE RIGHT WAY TO GET DESIRABLE SOUTHERN IMMIGRANTS.

The *Morning Star* of Wilmington, N. C., which has a clear understanding of the problems confronting the South, in discussing the question of immigration says:

Colonization schemes bring people, as has been time and again demonstrated. Senator J. A. Brown demonstrated it right close to Wilmington when he settled Northwestern people on the rich cut-over lands in Columbus county. He converted a cut-over pine region into an ideal agricultural country, and altogether about 3900 people have settled throughout the surrounding country. The consequence is a thriving town of more than 1200 people as the nucleus of their successful activities. The way to get settlers is to go after them with a farm, like Senator Brown did.

The way to get settlers is to do like the South Carolina capitalists who have purchased 17,000 acres of land in Chesterfield county for the purpose of settling farms on easy terms. The way to attract settlers is to do it like Mr. Hugh MacRae of Wilmington, together with his associates, has done. They have gone after them and got them. They provide people with homes and farms and help them in more ways than one. People will settle in the South when they are informed about the opportunities here for them and when it is made known to them how they can pull up pegs somewhere else and come to eastern North Carolina.

The position taken by the *Star* is absolutely correct. There are dozens of illustrations all over the South as striking as those which it quotes showing what can be done by intelligent colonization work by men familiar with the settlement of farm properties through colonization activity. Many of the men long identified with colonization work of this kind in the West and on the Pacific Coast are now turning their attention to the South. These men are to a large extent seeking to bring farmers and others from the North and West into the South. They are not wasting their time trying to turn the undesirable elements from the dregs of Southern Europe into the South in order to relieve New York of its congestion of this element, but they realize that there are tens of thousands, yes, hundreds of thousands, of families in the North and West who, when the matter is rightly

presented to them, are glad to escape the rigors of Northern winters and to avail themselves of the boundless opportunities and the good climatic conditions of the South.

Many years ago it was pointed out in the MANUFACTURERS RECORD that some parts of the Northwest were becoming so thoroughly foreignized that the time would come when, in order to be among their own people, the Americans of that section would practically be forced to move South. The truth of this is being fulfilled. No man can study the present situation without seeing that from many sources there is a southward trend of the best element of people from the West and the Northwest, as well as from New England. Many of these people want to escape some of the disadvantages of living completely surrounded by foreigners, as they now are.

The foreigners are coming into the South; they will naturally be drawn there by the development of this section and the opportunities for employment; but we can well afford to be exceedingly careful and not permit the whole stream of foreign immigration which for several years has been leaving Southern Europe for that region's good to be poured into the South. Italians from the Northern part of that country and many people from some other sections of Southern Europe would be desirable settlers, but it is necessary, if the civilization of the South is to be maintained and developed as a thoroughly Anglo-Saxon region, that we shall not attempt to crowd into this section too rapidly the Sicilians and kindred people who have been a curse to the city of New York.

Let the South continue its colonization undertakings; let its people and those from other sections buy large tracts of land, improve them with good roads, with comfortable homes, and then go out and get the right class of settlers, and they will be able to find many thousands of them. The growth of the Pacific Coast, the wonder of the day, has not been due to turning the tide of the lower classes of Italy into that section, but it has been largely due to the ability of the Pacific Coast people to make so attractive a presentation by ceaseless activity in their development campaign as to draw the best class of Americans.

## SOME FREIGHT RATE REDUCTIONS NEEDED.

The announcement, to which reference was made in the MANUFACTURERS RECORD last week, of the proposed reduction on Lake Superior ores, and likewise on coal and coke in the Pennsylvania iron region, suggests that the railroads and the iron and steel-makers of the West and Central East are preparing to cut the cost of iron and steel production to the lowest limit, even though in doing so there may be drastic reductions in freight rates and in other things. The Pennsylvania and Western



iron and steel interests are in a very much better position to reduce the cost of production than are the Southern iron-makers. In the South the royalty on iron ore and coal is very low. There is comparatively little profit to the independent miner of iron ore, and the iron-making concern which mines its own ore and coal allows a very narrow margin of profit on these raw materials before they enter into the cost of iron-making. In the North and West, on the other hand, a very considerable margin has been allowed on the raw materials before they go to the furnace, and they are, therefore, in a better position to stand a severe cutting down than are the Southern producers.

With a reduction of railroad freights, it is therefore possible for Eastern and Western iron and steel people to reduce their cost of production more easily than can the iron-makers of the South. It is important, therefore, that this situation should be met by the most thorough investigation in the South, and every possible opportunity utilized for reducing the cost of mining the raw material, of getting it to the furnaces and of there turning it into the finished product, and thence in distributing it to the consuming markets. The railroads, it would seem, must join with the iron-makers in meeting this condition. We believe the matter demands the hearty co-operation of the railroads of the South with a reduction in freight rates sufficient to better the situation of the iron-making interests of this section which are already suffering from severe competition in Western markets, and which will be still further injured by the reduction of the cost in the West unless an equal reduction can be brought about in the South.

#### THE CONSERVATION OF OUR GREATEST NATIONAL ASSET —EXISTING BUSINESS CON- DITIONS—DEMANDED.

From a little town known as Mountain Grove, in the Ozark region of Missouri, comes a copy of an address made by John T. Woodruff before the Ozark Commercial Congress which should put that town and the speaker to the forefront in a campaign for business sanity. And the sooner the people of the South and of the country at large realize their individual responsibility to inaugurate and to press such a campaign, the sooner will our country be saved from the dangers which now threaten its business life, if not its very existence as a government designed for the best interests of all classes.

"In the cry for conservation of natural resources," said Mr. Woodruff, "which has been sweeping over the country, I have wondered if there would not be some voice raised somewhere in favor of conserving our greatest commercial asset—existing business conditions. Few seem to care whether they survive or perish."

In this sentence Mr. Woodruff has clearly stated a great need. The land has been filled with stories of conservation, as though the highest advancement of the country demanded the greatest decrease in the use of our natural resources. One of the leaders in one of the great conservation conventions in discussing the matter with the writer a year ago, in reply to the question, "Do you not know that the country has been made to believe that there is an actual shortage of coal, and that within a century our coal supply will

be exhausted, when, as a matter of fact, we have coal enough for a thousand years?" answered, "Yes; I know that this is true." Asked as to why he had favored such exaggeration, his reply was, "Only in this way could the country be awakened to the importance of studying conservation as a whole." That fully states the case; and yet, as Mr. Woodruff points out, the one thing upon which depends the ability to live, to get daily bread and to do business, is the conservation of our present or existing business interests. If these be destroyed—and politicians appear to be doing all in their power to bring about their destruction—then the time will come when millions of men will seek in vain for work, and when we shall again have that disastrous condition in which the soup-house was a conspicuous feature of American life. There is no necessity for such a condition. There is no justification for it. It would leave in its trail as much misery, woe and death as war itself. Mr. Woodruff adds in his address:

A real business revival on a very comprehensive scale is absolutely necessary to save the country from positive distress. Such a revival is the only thing that will offset the increased cost of food products, for then wages will be higher and the increased cost of living will not be so noticeable or so difficult to meet. \* \* \* Every loyal American, whatever his situation in life, owes it to his country and to his fellow-Americans to do everything and anything he reasonably can to aid and encourage internal and industrial development, so that all who have to toil may have the opportunity to do so at a remunerative wage. \* \* \* If we can silence agitation and establish stable conditions, an era of unsurpassed development will ensue.

Referring to the panic of 1907 as an outcome to a large extent of political agitation, he says:

Early in the year, however, agitation against railroad corporations, which had existed in considerable intensity for some time previous, broke out with such fury in many sections that Congress and most of the State Legislatures were deluged with proposed laws to regulate nearly every known feature of the transportation business. The agitation resulted in the enactment of many harsh and stringent laws, some making operation more difficult and costly and others reducing revenue very materially. It is believed that this attitude on the part of Legislatures and Congress was largely responsible for the panic which followed later in the year. The railroads and all enterprises largely dependent upon railroads could have withstood the earlier attacks, but the appetite of the agitator, like the appetite of the tiger when once he tastes blood, is beyond control, and so we find that the first attacks were followed by a second and third. Not only some, but all public-utility corporations and many companies engaged in private enterprises were put under the ban. That agitation has continued unabated until in some sections of the country it actually amounts to hysteria, and the politicians who usually play for favor, and not for principle, were quick to take up the hue and cry, if, indeed, it did not originate with them, and they have never ceased in their activities.

How true is the statement that the political agitator, tasting the blood of his victim, has hastened on, carrying the South with him, to wild attacks upon all business interests.

"This disposition to grind out laws interminable," adds Mr. Woodruff, "is widespread. If that government is best whose hand in the process of administering government is felt the least, then it would follow, it seems to me, that legislation, the cure-all of the politician, is not what is either wanted or needed."

And then Mr. Woodruff adds:

Well-informed lawyers have always held that the common law as administered in the State courts and in the courts of England is ample and adequate to remedy any trust

evil that has ever existed. The only doubt that they have had is as to whether the Federal courts possess sufficient common-law jurisdiction to administer it. But this doubt could have been, and indeed can yet be, put at rest by the enactment by Congress of a statute of a dozen lines. In this case the Sherman anti-trust law would have been unnecessary and would be useless today, for under the common law all combinations in the restraint of trade are unlawful, and, being unlawful, the formation or execution of any plan in the restriction of trade could be absolutely prohibited. But to the politician in much verbiage there is not only much strength, but also everlasting salvation.

This explains why we have on the statute books laws of interminable length which nobody understands and whose meanings the courts do not know how to interpret.

Under these conditions the work of the agitator goes on forever, and the mania for political office, without regard to qualifications needed to fill it, or the thought of serving the State as a duty rather than self at a profit, and love of notoriety, regardless of whether the recipient is worthy of note, are things animating the politicians of the country who are filling more than half of the offices.

Such is the way Mr. Woodruff sums up his view of the work of the agitator.

He then calls upon business men who do not want to hold office, but who want to see the offices filled by men of common honesty and horse sense, men who work neither for the railroads nor for the trusts, who are under no obligations to either for favors extended or favors yet to come, but who want to see the business interests of the country developed and broadened, to register their protest and to make it good, so far as may be in their power, against the politicians and the agitators. He calls upon the farmers whose prosperity depends upon railroad and industrial activity, for without the prosperity of these farm products decline in price, as the South today is learning to its own great loss; he calls upon the laboring man who wants to see more jobs and better jobs and higher wages, and upon the tradesman whose business depends upon the prosperity of the farmer and the mechanic and the clerk, and upon business men generally to oppose the agitator and the mere politician, be he Republican or Democrat, seeking a small office or a great one. "We owe it," says Mr. Woodruff, "both to the country and to ourselves. We owe it to the country, for at this time we are in a most distressing situation as a result of this constant outcry against capital and the unceasing appeal to the prejudices of the ignorant. Are we not now at the point where all individuals, whether great or small, are refusing to embark in anything new for the reason that they fear some fresh attack on corporate investments which might result in loss?"

Are there not other commercial organizations throughout the South, and, for that matter, throughout the land, and other men, like Mr. Woodruff, who will voice their protest against the conditions which are destroying business and inaugurate a campaign for sanity in politics, for sanity in the treatment of business questions, with a view to the restoration of business prosperity, that the losses which are threatened by the decline in farm products to the extent of hundreds of millions of dollars may be stayed, that employment may be created for thousands now out of work and that once more the wheels of business activity may revolve with increased speed? Are there not in the South other men of Mr. Woodruff's clear vision, and other business organizations ready to hear such addresses and to act upon them?

#### HOW TO GAIN A LIBERAL EDUCATION.

The man who wants a liberal education by keeping broadly informed as to the mechanical and industrial developments which are revolutionizing so many methods of doing business needs only to study the wonderful variety of information presented from week to week in the advertising pages of the MANUFACTURERS RECORD. For instance, take the last issue of this paper and look over a few advertisements gathered at random as showing the variety of news covered. One tells of an electric clock, which costs but 50 cents a year to keep, wound up and regulated to absolute accuracy; one of a safety appliance for elevators, by which accidents are automatically prevented; one of a reinforced-concrete tie and spiking device that would seem to have great possibilities bearing on railroad building; one of an extension car step that brings the passengers to within six inches of the station platform, in itself a matter of interest to every man and woman who travels; one of an enameled brick that is used as inside lining for factories and other big concerns alike for safety and sanitation; one of a plan for building great dams with much less material than the masonry of the solid dam now generally used, and claimed to have additional strength. And then there is another of a storage-battery motor-truck crane that can be moved with the ease of a motor truck, carried from point to point and used to load and unload freight at a cost far less than is paid for hand-loading and horse-hauling, this in itself being a marvel of interest to every business man who has occasion at any time to have merchandise loaded or unloaded or moved in warehouses, on wharves or elsewhere. In one of these pages is found the story of the many uses for red gum, one of the South's most plentiful and most beautiful hardwoods, which up to a few years ago, like a thousand and one other things in the South, as in other lands, was considered practically worthless. These are but a half dozen or so out of more than a thousand different things, most of them of equal interest and equal value to the public, to be found in the advertisements in the MANUFACTURERS RECORD from more than a thousand of the foremost business concerns of the country. About all of these things enough information is given, and with fascinating vividness, to make a study of these pages more interesting than a novel and as valuable as an encyclopedia. No reader of the MANUFACTURERS RECORD, it matters not how broadly he may be educated or how wide his experience, knows about every one of these things. Whether one prefers to skip the editorial and news pages or not, he certainly cannot afford to skip the advertising pages, for in them are found the best work, told in picture and story, of many thousands of men. The men who have put their very life into the invention of some great machine or improvement in methods of doing business, the men whose lives have gone into the building of the machine, and those who, with equal energy, have put their best brain power into telling the story through these pages, form a mighty army working for the benefit of every reader, for there is not an intelligent man in all the land who cannot gain great benefit from the almost limitless fund of information to be found in these pages.

The reader who will make a practice

of following the advertisements, searching out each week those he has not hitherto seen and making a study of them, will very shortly be surprised at the knowledge he has gained of the things that are being accomplished in the world of mechanics, industry and applied science; of the wealth of resources in the South; of the opportunities it offers for investigation and investment, and in thus broadening his knowledge every reader who does this will soon come to find that a study of these pages is one of the most interesting features of his life. It is the constant endeavor of the MANUFACTURERS RECORD to make its editorial columns and its news pages interesting and instructive to readers, but it must be confessed that the question not infrequently arises as to whether the advertising pages of such a publication do not give more general information, and on a wider variety of subjects, than can be found in the reading pages of any publication in existence.

Get in the habit of reading the advertising pages.

#### INFLUENCE OF RAILROADS ON MATERIAL UPBUILDING.

In the annual report of the Southern Railway President W. W. Finley directed attention to the progress of industrial and agricultural development along its lines as being one of the most important factors in the strength of the company's position. In the review of the report recently published in the MANUFACTURERS RECORD brief reference was made to this growth as exhibited in the total census figures of population for all stations on the Southern Railway which were of sufficient importance to be returned separately in the last three census reports. Thus in the total population of these places there was an increase of more than 34 per cent. between 1900 and 1910 and of more than 75 per cent. between 1890 and 1910.

But the most interesting display of this advancement is seen when the returns are considered and comparisons made by States. Thus, in Virginia, the percentage of increase of population along the Southern Railway was over 42 per cent. between 1900 and 1910, and nearly 63 per cent. between 1890 and 1910, although the increase for the whole State was little more than 11 per cent. for the last 10 years and less than 25 per cent. for the last 20 years. In other words, the progress along the railway for the last decade was nearly four times as great as for the entire State; for the 20-year period it was something more than two and a half times as great, thus showing that the territory along the railroad is being populated with increasing rapidity as compared with other sections.

In Alabama the difference between the rate of advancement in population along the railroad and sections otherwise located is more strongly marked. Thus from 1900 to 1910 the gain along the railway was over 83 per cent., and since 1890 over 144 per cent., while for the entire State between 1900 and 1910 it was less than 17 per cent., and since 1890 about 41 per cent., the increase along the railroad in the last 10 years being about five times as great, and in the last 20 years about three and a half times as great as for the whole State.

Other Commonwealths also show similar prosperity along the railway lines in distinction from the rest of their area. Thus in North Carolina the growth of population along the Southern Railway during the last 10-year

#### "THIRTY YEARS OF SOUTHERN UPBUILDING."

The announcement of the early publication of "Thirty Years of Southern Upbuilding," in which will be presented the whole story of the progress of the South in every line of industry during the last thirty years, with a forecast of what is to be achieved in the future, has been enthusiastically received in all parts of the country.

This publication will be unique, and for years to come will be consulted by public men, by students of political economy, by business men of all classes and all sections interested in the resources, the progress and the prospects of the South. Nothing exactly similar to it has heretofore been published of the South, or of any other section. Every man interested in the South, whether living in that section or elsewhere, will need to have a copy for his office, and should have a copy for his library. It will be bound in leather at \$2 a volume, in cloth at \$1.25 and in paper at 50 cents. As soon as published, a copy in paper will be furnished free to every paid-up subscriber to the MANUFACTURERS RECORD. There will be no discount from these prices, and orders must be accompanied by check, as we cannot undertake to keep book accounts for these small amounts.

As indicative of the wide range of orders which have been constantly coming in ever since the first announcement, may be given the following:

LeBlanc & Railey, Ltd., insurance managers of New Orleans, wrote:

"Referring to your recent circular advising us of your contemplated publication entitled 'Thirty Years of Southern Upbuilding,' we enclose herewith our check for \$2, for which we shall be obliged if you will kindly send us four extra copies in addition to the one which we shall receive in regular course as subscribers."

A few days later the same concern wrote:

"We enclose a further remittance of \$5, for which please kindly enroll us for ten more copies of 'Thirty Years of Southern Upbuilding.' This will make fourteen extra copies for which we have paid."

D. Arthur Bowman & Co., bond dealers, of St. Louis, wrote us as follows:

"To our statistical desk comes, each month, a total of more than 300 different newspapers and periodicals. From none do we derive a greater degree of practical benefit and suggestive information than your own MANUFACTURERS RECORD. The enclosed check for \$2 for one copy of 'Thirty Years of Southern Upbuilding,' in flexible leather (permanent) binding for our library, we therefore consider a 'fixed charge,' and by no means applicable to extraordinary expenditures."

Megargel & Co., bankers, New York, write, enclosing check for \$9 in payment for copies of "Thirty Years of Southern Upbuilding," to be used in their business, as they are largely interested in the South.

M. J. Caples, vice-president of the Chesapeake & Ohio Railway Co., writes:

"I enclose herewith my check for \$5.25 covering annual subscription to the MANUFACTURERS RECORD and for one cloth-bound copy of 'Thirty Years of Southern Upbuilding.'"

These are typical of orders that have come from bankers, merchants, manufacturers, architects, life insurance companies, contracting companies and others throughout all parts of the country for the work which will be published early in the new year. Those who desire copies must order in advance of publication.

It is interesting to note that among the letters that have been received an unusually large proportion want the cloth or leather-bound copies, indicating their intention to preserve this publication for permanent use.

period was 60½ per cent., and in the entire State 16½ per cent., while for the 20 years it was approximately 186 per cent. along the railroad and only little more than 36 per cent. for the whole. South Carolina shows for the two periods, respectively, about 25½ per cent. and 72½ per cent. along the Southern, and a little more than 13 per cent. and about 31½ per cent., respectively, for the State. In Georgia the growth along the railroad was over 43 per cent. from 1900 to 1910, and over 82 per cent. for the 20-year period, and in the entire State less than 18 per cent. for 10 years, and an even 42 per cent. for 20 years. Mississippi displays growth of nearly 48 per cent. on the railroad, and about 16 per cent. and over 39 per cent., respectively, for the whole. In Tennessee the figures are still more encouraging, progress along the railway having been 35 per cent. for the 10-year period and over 90 per cent. for the 20-year period, and a little more than 8 per cent. and about 23½ per cent., respectively, for the entire Commonwealth. Kentucky also shows progress in a like manner, the gains along the railroad being about 13½ per cent. and over 46 per cent., respectively, and for the whole State about 6½ per cent. and over 23 per cent., respectively.

There could hardly be a better argument for the value of railroads to a country than these eloquent figures based on the reports of the Census

Bureau. They demonstrate conclusively that means of transportation adequate and progressive are tremendous factors in the development of the country. Those sections that are without railroads seem to most keenly appreciate the advantages that they would bring, and bonuses are offered, generally with the greatest enthusiasm and freedom, to induce construction, but still railroad expansion halts as compared with what ought to be done. The sections that have shown the astonishing rate of growth as compared with the balance of these States are no richer in resources of soil, climate and minerals than the backward districts. Growth of the one and stagnation of the other is merely a question of transportation and of intelligent, vigorous work by railroads for the development of the country tributary to them.

#### FLORIDA CAN BE DEVELOPED INDUSTRIALLY.

The Tribune of Tampa, Fla., mentions the visit of an Eastern chair manufacturer to that city with a view to studying its advantages for the establishment of a chair factory. The same issue refers to the probability of a large Western concern starting a canning factory in Tampa. These two cases illustrate the gradual awakening which is taking place in and out of Florida as to the manufacturing possibilities of that State. For a long time Florida people,

as well as outsiders, looked upon the State as a purely agricultural region devoted mainly to citrus fruits, or as a winter resort for health and pleasure-seeking. As a matter of fact, Florida has large manufacturing possibilities. It has raw material suitable for many kinds of industries; it has a great variety of woods admirably adapted to the manufacture of furniture and other products which are now brought from other sections. The increasing development of the early vegetable industry, such as tomatoes and other things which could be canned to advantage, ought to result in the development of a very large canning industry. Florida annually buys hundreds of thousands of cases of canned goods from Baltimore and other points. It should to a large extent produce its own canned goods and develop a sufficient industry to be a shipper rather than a buyer of canned fruits and vegetables. The Hawaiian Islands have created a great industry in canned pineapples, widely advertised in nearly all the leading magazines of the country. The East Coast of Florida has become a great pineapple-producing region, thousands of acres being given over to this attractive and profitable crop. There ought to be a basis for the canning of pineapples in that State as well as in the Sandwich Islands. There has been some suggestion that industrial development could not make much progress in Florida on account of a lack of fuel in the State, but this is purely imaginary. Florida is certainly much closer to the fuel-oil regions of Texas and to the coal of Alabama than is New England. The vast manufacturing interests of New England have had to depend upon imported coal, hauled a thousand or more miles from West Virginia and Virginia via Norfolk, Newport News and Baltimore to New England ports, and thence distributed through all that region. There need be no difficulty whatever in providing an ample supply of fuel for industrial development in Florida if the railroads will take hold of the situation intelligently and develop at Tampa, Key West and other points most easily reached from the Gulf by oil steamers the most modern facilities for the handling of fuel oil. The same thing should be done as to methods of handling coal from Alabama on the Gulf side and from Maryland and the Virginias on the Atlantic Coast side. There are doubtless, moreover, very great possibilities in the peat of the State for the development of a cheap fuel supply. The United States Geological Survey has recently called attention to this, and the State of Florida and the railroads might well afford to make a thorough investigation of the subject. Then, in Florida, as in nearly every other part of the South, there are a thousand and one opportunities for the creation of new industries whenever the railroads and the people will intelligently and vigorously go at the proposition.

#### HOW TO GET BUSINESS.

The Plaster Products Co., manufacturer of "Hercules" plaster board, of Hampton, Va., writing under date of November 7 to the MANUFACTURERS RECORD, says:

"We wish to take this occasion to express our satisfaction at service you render and the high class of inquiries received from your paper, the resulting sales being over 33½ per cent. from original inquiries without any follow-up system."



**Water Proposition Near Mobile.**

Mobile Light & Railroad Co.,  
Mobile, Ala., November 1.

**Editor Manufacturers Record:**

The city of Mobile recently adopted commission government, and the commissioners are now refusing to allow any more connections for buildings that may be erected outside of the city limits. In addition to this, they have stated that the rates are to be increased 50 per cent. where water is supplied.

There is, I should judge, a population of not less than 10,000 affected by the question of water denial or increase in rates, and the country is so far supplied by mains laid by individuals which tap the city supply and are not the property of the city.

Another company could come in here and pick up a good line of customers on the start, and by tapping the already laid pipes would be able to reach them without much cost in addition to the piping of water from source of supply.

There is an abundance of the finest water to be obtained at no great distance from the limits of Mobile, and there are no engineering difficulties to be encountered, no rocks to be blasted, no chasms to be bridged, just a trench to dig and the pipes to lay.

The outside territory is growing fast, and has a bright future, and the man or syndicate that would get in on the ground floor and secure the right charter and franchise will undoubtedly pay expenses from almost the start and have a valuable property in the not distant future. It would appear an inviting field for investigation and investment.

I am writing you, as such a proposition might prove of interest to some of your associates or subscribers.

MARSENA A. PARKER.

**Crate Factory Needed in Prosperous Section.**

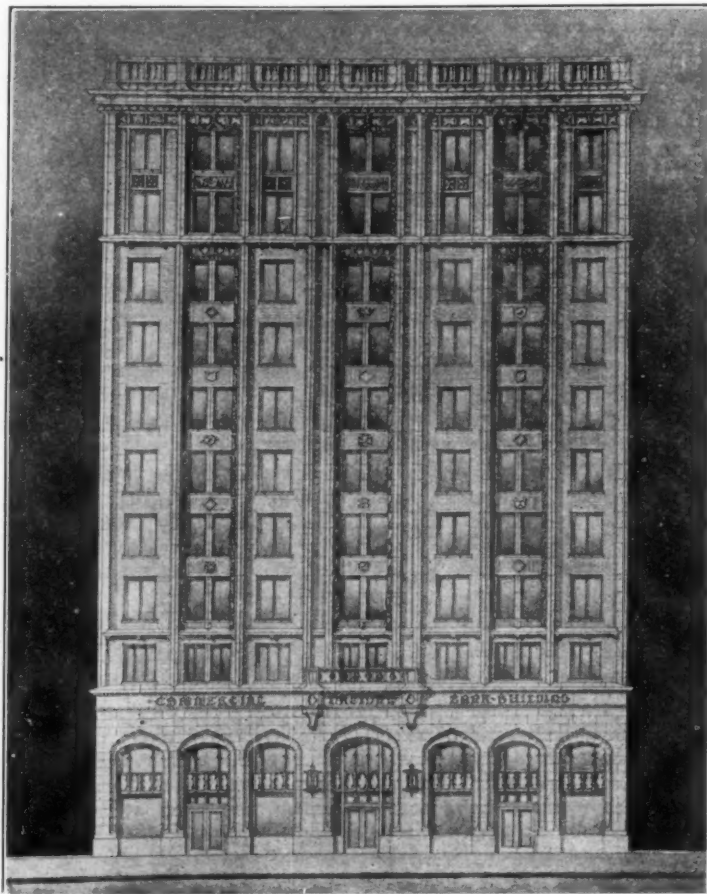
Summerdale, Ala., November 6.

**Editor Manufacturers Record:**

This is a new, growing and very promising farming and trucking country. We need an institution to manufacture shipping packages, such as crates, hampers, etc., and as we have a canning-house packing sweet potatoes chiefly, no doubt the cases for their shipment would be made here. To give you some idea, our neighboring town shipped 80 cars of early "sweets" in crates, and their year's shipments probably will amount to 200 cars. Our town will ship next spring the product of about 25 acres of Bermuda onions and about 150 acres of cucumbers. These several crops will be increased many fold in the next few years. At present and in the past our packages are and have been coming from distant outside points, incurring freight charges, etc., so it would be not only to our good, but very, very greatly to the advantage of anyone who would come here and start such a factory. The woods, consisting of cypress and other soft woods, are right at hand, and in such abundance as to last many years. There can be no doubt that if someone interested in this line of manufacture could come here and look into the matter they would see at once the profitability of this field. Kindly give names of manufacturers of such machines.

W. S. SHURE.

At its annual meeting at Winston-Salem, N. C., last week the Southern Furniture Manufacturers' Association, having a membership of 125 in North Carolina, South Carolina, Georgia and Tennessee, passed a resolution requesting the next General Assembly of North Carolina to provide for the establishment of a State Board of Trade.



COMMERCIAL NATIONAL BANK, RALEIGH, N. C.

Chamber of Commerce,  
Raleigh, N. C., November 6.

**Editor Manufacturers Record:**

The Commercial National Bank's new building for its own use, for stores and offices, will be 10 stories high, of steel construction, and will have a frontage of 90 feet and a depth of 120 feet. The base will be of granite, and Indiana limestone on the second floor, and light brick for the remainder. The trimmings will be of Indiana limestone and terra-cotta. Besides the banking-room, there will be a store 30x120 feet, and nine office floors, with 20 offices on a floor. The building will be fireproof. Thornton Marye of Atlanta, Ga., is the architect. It is the plan of the bank to celebrate its twenty-first birthday on the 30th of September (next) by occupying its building, the cost of which will approximate \$288,000. Officers of the bank are B. S. Jerman, president; Alfred A. Thompson, vice-president; E. B. Crow, cashier; A. P. Bauman, assistant cashier.

FRED A. OLDS, Secretary.



CITIZENS' BANK & TRUST CO.'S BUILDING, TAMPA.

To be erected; fireproof steel construction; 79x100 feet; 10 stories; cost about \$250,000; contract for steel construction awarded to Morava Construction Co., Chicago; other contracts also awarded; architects, Francis J. Kennard, Tampa, and J. C. Llewellyn, Chicago.

**Petroleum Experiments.**

The United States Geological Survey has for several years carried on experimental work in co-operation with the Johns Hopkins University to determine the cause of the differences in color, gravity and other features of crude oils found in the same oil field.

Fifteen years ago David T. Day found that crude oil cannot ooze through the pores of dry shales without leaving in the pores a part of the heavier oils it contains. The experiments showing this fact made it seem possible that differences between various Pennsylvania oils were due to the density and the dryness of the shales through which they had been diffused, and suggested that these simpler Pennsylvania oils may have been diffused through shales from more complicated asphaltic oils containing sulphur.

The whole subject is reviewed in Bulletin 475 of the United States Geological Survey by J. Elliott Gilpin and Oscar E. Bransky. The authors particularly emphasize the results of recent experiments made by them to determine whether it is simply the thickest oils in a given crude oil which are separated out when oil diffuses through shale, or whether the rate of diffusion depends on the kind of oil.

The results of these experiments show the remarkable fact that unsaturated oils, even those as thin as or thinner than saturated oils, are held back in the shale. Thus when a solution of benzol (unsaturated) and a paraffin oil (saturated) is allowed to diffuse upward through a tube of fuller's earth (which is a good type of shale for experimental purposes), the benzol tends to collect in the lower sections and the paraffin oil in the upper sections of the tube. It has also been found that if water is added to shale containing a mixed solution of saturated and unsaturated oils and sulphur compounds, the water drives out the saturated portion more easily than the unsaturated. The sulphur compounds also cling to the clay. The possibility is thus established that the simpler paraffin-base oils may have been derived by diffusion through shales from more complex asphalt-base oils. The significance of these experiments as regards oil deposits is discussed at length in the report, a copy of which can be obtained by addressing the director, United States Geological Survey, Washington, D. C.

**Carriages and Wagons in 1909.**

Between 1904 and 1909 the capital invested in this country in the manufacture of carriages and wagons increased from \$152,345,000 to \$175,474,000, or 15 per cent., according to the Census Bureau; the amount of salaries and wages from \$44,944,000 to \$45,555,000, or 1 per cent.; the cost of materials from \$77,258,000 to \$81,951,000, or 6 per cent., and the value of products from \$155,869,000 to \$159,893,000, or 3 per cent. The average number of wage-earners decreased from 77,882 to 69,928, or 10 per cent., and there was a decrease of 4 per cent. in miscellaneous expenses of from \$12,113,000 to \$11,670,000.

**Wheeling's Bank Clearings.**

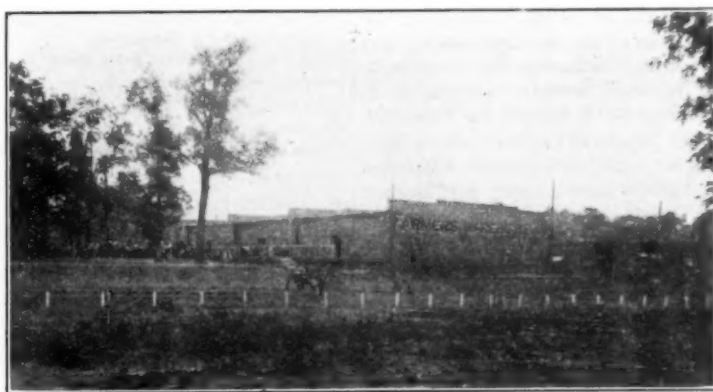
Secretary R. B. Naylor of the Board of Trade of Wheeling, W. Va., is circulating a statement showing that the bank clearings of that city in October and in the first 10 months of this year were far ahead of the bank clearings of 20 other prosperous communities, ranging all the way from London, Ontario, to Mobile, Ala., and from Sacramento, Cal., to Fall River, Mass., each of which cities has a greater population than Wheeling. With a population of 41,641, Wheeling's October clearings were \$8,442,180, and its 10 months' clearings \$74,525,550.

## DECLARATION OF INDEPENDENCE BY ONE SOUTHERN COTTON GROWER.



ONE SOUTH CAROLINA PLANTER'S TWO HUNDRED AND FIFTY BALES OF COTTON ON PARADE.

Claude W. Ratteree, an extensive planter of York county, South Carolina, raised this year 250 bales of cotton on about the same number of acres. He was not satisfied to sell his crop at 9 cents a pound, as it cost him about 10 cents a pound to make it. Fortunately, Mr. Ratteree was not obliged to sell at this time, but stored his cotton in the Farmers' Union Warehouse Co.'s building at Rock Hill. The president of the warehouse company, John T. Roddey, persuaded Mr. Ratteree to bring his cotton to town at one haul. So, in a sort of moving declaration of independence of the cotton market, Mr. Ratteree drove into Rock Hill the other day at the head of a procession of fifty wagons, each carrying five bales of this cotton. A photograph was taken of this interesting procession, and is reproduced here.



IN FARMERS' UNION WAREHOUSE FOR BETTER PRICES.

duced here. Mr. John T. Roddey, who was influential in having this display made, writes, in answer to an inquiry of the MANUFACTURERS RECORD, that the roads over which this cotton was hauled are fairly good, and that all the roads in York county are being put in good shape. When all the roads in the cotton State are in such condition as to permit the easy passage of two-mule wagons each loaded with five bales of cotton, and when more cotton growers are able, each, like Mr. Ratteree, to place 250 bales of cotton in warehouse until better prices for the staple rule, the annual demoralization in the market over "underproduction" or "overproduction" of cotton will become a thing of the past, and cotton growers, cotton manufacturers and cotton handlers will be advantaged.

## MAKING 350 BRICKS A MINUTE.

Economies at the Sibley-Menge Plant in Alabama.

[Special Cor. Manufacturers Record.]

Birmingham, Ala., November 8.

A party of 114 citizens of Birmingham inspected the new pressed-brick plant of the Sibley-Menge Brick & Coal Co. at Sibleyville yesterday in detail. President John W. Sibley of the company was the host, and he received many congratulations upon the extensive development which he has created and upon the success of the business.

The visitors looked through a stockroom where over 2,000,000 brick are now stored awaiting shipment to buildings in Atlanta, Ensley, Ala.; New Orleans, Valdosta, Ga.; Tampa, points in Mississippi and other States. They also saw the pressed brick that are to be used in the construction of the American Trust and Savings Bank Building, the 20-story skyscraper which is now being erected in Birmingham.

The company is equipped to turn out 225,000 common brick and 1,000,000 pressed brick per month. The great pressing machines were operated before the visitors, showing the dry process of brick-

making, in which a pressure of 40 tons was applied to the molds from which 350 brick per minute were rolled out to be hauled away to the kiln.

Mr. Sibley carried the guests to the shale pits, where an immense steam shovel is continuously at work removing the shale from the side of the hill, where it is dumped into cars and carried to the mixing shed. This shale is ground in crushers operated by electricity. The line of kilns in which these bricks are burned is 525 feet long, and is said to be the largest kiln plant in the South. The Sibley-

Menge plant is situated at Sibleyville, about four miles from Warrior on a spur of the Louisville & Nashville Railroad. The company mines its own coal for the burners, thereby reducing the cost of production to a minimum. Among the prominent business men who congratulated Mr. Sibley on the extent and success of this plant were Robert Jamison, Sr., A. H. Ford, president of the Birmingham Railway, Light & Power Co.; Erskine Ramsey, the well-known engineer; J. B. Babb of the Chamber of Commerce, and many others.

I. S. FIELD.



# SOME STRIKING SIGNS OF THE SOUTHERN SITUATION.

## BUYS 30,000 ACRES OF COAL LAND.

### Boston Company's Big Purchase in Eastern Kentucky.

[Special Cor. Manufacturers Record.]

Boston, Mass., November 10.

Hayden, Stone & Co. of Boston have purchased, approximately, 30,000 acres of coal lands in Pike county, Eastern Kentucky. These lands adjoin some of the purchase made a year ago by Mr. Edward J. Berwind, and are, generally speaking, in the Big Sandy territory. The property has been examined for the buyers by Mr. Edward V. d'Inville of Philadelphia, Pa., who made an exceedingly favorable report as to the probable recoverable amount of coal in the various seams of the property, that amount running into the hundreds of millions of tons. Active development will be instituted at once. The management of the property will be identical with that of the very successful Island Creek Coal Co. in Logan county, West Virginia, with Mr. Albert F. Holden as president, Mr. T. B. Davis, Jr., as vice-president and general manager. The lands will be owned and operated by a corporation to be known as the Pond Creek Coal Co.

About 200 acres of this property was bought from the Big Sandy Company of Boston, a company which owns about 80,000 acres of coal property in Eastern Kentucky. The capitalization of the Pond Creek Coal Co. will be \$2,000,000, par value of stock being \$10. Of the total capitalization of 200,000 shares, 150,000 shares will be issued at present at \$15 per share, covering the entire purchase of an area larger than originally contemplated, and provision as estimated by the engineers for bringing the property to a self-supporting stage of development.

## TO BUILD ON SEVENTEEN ACRES.

### Alabama Site for Big Eastern Manufacturing Concern.

One of the great industrial concerns of the East, the Barrett Manufacturing Co., with offices in nearly all the leading cities of the United States and Canada, as well as abroad, following the Southward trend of the day, has purchased 17 acres of land near Corey, Ala., on which to build a factory. Mr. R. P. Perry, the general manufacturing manager, advises the MANUFACTURERS RECORD that the company is arranging to build this plant, but that the details have not been sufficiently advanced to permit giving full particulars.

The Barrett Manufacturing Co. is known wherever roofing or road-making work is known. This company manufactures roofing and road-making materials. It is one of the leading manufacturing concerns of the United States, backed by very great wealth, and the purchase of 17 acres of land adjoining Corey, with a view to the establishment at that point of a plant for the manufacture of its various products, is only another indication of how rapidly the trend of industrial development is Southward.

## Right Kind of Work to Develop Mississippi.

[Special Dispatch to Manufacturers Record.]

Natchez, Miss., November 9.

The Natchez District Development Co. will buy tracts of improved farm lands in Mississippi and Louisiana, subdivide these into small farms averaging 40 acres and improve wherever necessary, with a view to colonization. Prices will range from \$12 an acre up, with reasonable terms to buyers. Public-spirited and wealthy local

citizens are behind the movement, which aims to improve and colonize the farming lands of this section. This plan also has the active financial support of capitalists in the middle West. Demonstration farms will be operated in order to show what can be done in this section.

## COMPLETING A COTTON MILL.

### Notable Addition to the Industries of Lagrange.

[Special Cor. Manufacturers Record.]

Lagrange, Ga., November 8.

The people of Lagrange are looking forward with interest to the completion of the \$500,000 plant of the Dunson Mills. This enterprise was organized some months ago, and the construction has since been progressing so steadily that it is now probable manufacturing will begin by the first of the year. The equipment will include 20,000 spindles, 400 looms and accompanying machinery, driven by a 1200-horse-power steam plant, to produce cotton duck, drills and twills. Its weekly capacity will be about 80,000 pounds. Three hundred operatives will be employed. The mill building is a slow-burning structure, 572 feet long by 132 feet wide, two stories for spinning department and one story for weaving-room. The picker-room is of concrete. About \$96,000 is the cost of the building, and about \$300,000 is the cost of the machinery. Preparatory machinery is being furnished by the Whitin Machine Works of Whitinsville, Mass.; pickers by the Kitson Machine Shop of Lowell, Mass.; slathers by the Lowell (Mass.) Machine Shop, and looms (Northrop) by the Draper Company of Hopedale, Mass. The Dunson warehouse is a \$20,000 building with a capacity of 4000 bales of cotton. It is equipped with automatic sprinklers for fire protection. Water supply is stored in a 3,000,000-gallon tank dug in the earth and then lined with solid concrete. The mill village will include 85 cottages of modern design and frame construction, of three, five and six-room type. It will be lighted by electricity. Between \$50,000 and \$60,000 is the cost of the cottages. The entire plant occupies a 120-acre tract. The company's officers are: President, J. E. Dunson; vice-president, J. M. Barnard; secretary-treasurer, T. J. Thornton; W. S. Dunson, superintendent.

The completion of the Dunson Mills will add largely to Lagrange's importance as a cotton manufacturing city, as there are already six big mills here, having 75,000 spindles and accompanying looms for manufacturing principally duck and other heavy cotton cloth. Over \$2,000,000 is invested in these six mills, and they consume annually about 60,000 bales of cotton.

Other plants here include a \$200,000 fertilizer factory; two cottonseed-oil mills; two cotton gins driven by electric power; three woodworking and planing mills; ice factory; excelsior factory, etc.

Lagrange has municipal water-works and electric-light plant, besides well-paved streets and cement sidewalks, and these are all extended as the population, now about 10,000, increases. The taxable values of the city are \$4,250,000, and it is estimated that the actual value is \$6,000,000. Financial interests are represented by four banks, with an aggregate capital and surplus of \$850,000. These institutions have deposits totaling over \$1,000,000. Education is well represented here by five municipal schools and two colleges, Lagrange Female College, founded

in 1846, and Southern Female College, founded in 1842.

Lagrange is the county-seat of Troup county, covering 227,760 acres of land, with nearly three-fourths of this under cultivation. The soil is very productive, and two crops a year are frequently grown, the products being cotton, corn, wheat, oats, rye, potatoes, sorghum, cane, garden truck, etc. Average yields per acre are quoted as follows: 1 to 1½ bales of cotton; 35 bushels of corn; 50 to 75 bushels of oats; 300 gallons of syrup from sorghum; 500 to 600 gallons of syrup from sugar-cane of the ribbon variety; 300 bushels of sweet potatoes; 20 to 40 bushels of wheat, etc.

The county roads are now being modernized, a \$200,000 bond issue having been voted this year for road improvements. This work is in progress under the contract system, supervised by competent engineers.

H. C. CALDWELL.

## SOUTHERN IRON-ORE RESOURCES.

### Criticism of Attempts to Prove That They Are Monopolized.

Referring to a recent editorial in the MANUFACTURERS RECORD on the injury to the South through attempts to prove a monopoly of Southern iron ores, Secretary Joseph B. Babb, of the Chamber of Commerce of Birmingham, Ala., writes:

"While the holdings of the Tennessee Company are large and valuable, it has never been considered here that the company had a monopoly of iron ores of this region, to say nothing of iron ores in some of the other Southern States. There are already several Birmingham companies manufacturing pig-iron that are in position, so far as their ore properties are concerned, to manufacture steel at the present time, and there are properties not in the hands of operating companies which could be utilized if capital should take hold of them for that purpose. It is rather difficult for us to realize here that the absurd idea that there is a monopoly existing in the ownership of Southern ores should obtain currency. We know that the development of the resources of this section has just begun, and that opportunity lies upon every hand. I approve most heartily your commendatory references to the Tennessee Company and the policy of the Steel Corporation in regard to that company. There has been, so far as can be seen, no effort to stifle competition, but every effort to develop where development was justified. The assumption that the Southern ores have been monopolized is so baseless that it cannot long survive. Only the breath of investigation is needed to make it fade away."

Mr. Henry Walters, chairman of the board, Atlantic Coast Line, writes from New York:

"I congratulate the MANUFACTURERS RECORD upon its thoughtfulness in calling attention to the facts in this case. You are certainly correct in saying that the United States Steel Corporation does not control 20 per cent. of the iron ores of the South."

J. P. Winn, secretary Chamber of Commerce, Chattanooga, Tenn., writes:

"We are very much pleased that you have taken up the gauntlet on this subject, and hope you will hammer on it until the public is convinced that we have in the South more iron ore today than the United States Steel Corporation owns or controls in all of its possessions. Mr. E. F. Burchard, United States Assistant Geologist, has just about completed an ex-

haustive survey which included prospecting work of this particular district, and he will corroborate the statement sent out from this office some weeks ago that our immediate district had more than 500,000,000 tons of available iron ore, and we are sure that other fields have equally as much or more."

## INDUSTRIAL NEWNAN.

### Some of the Enterprises of the Developing Georgia City.

[Special Cor. Manufacturers Record.]

Newnan, Ga., November 7.

Newnan, the county-seat of Coweta county, has about 6000 inhabitants, and its manufacturing industries include several important plants, the best known of which is that conducted by the R. D. Cole Manufacturing Co. This company has extensive works for the production of towers, tanks, boilers, etc., and its output is shipped throughout the entire South. It also receives contracts from other sections, and is now building a tower and tank on Long Island, New York.

The Newnan Buggy Co., another enterprise here, was organized last year with \$10,000 capital and erected a large two-story brick building, which is equipped with the latest improved machinery for the production of buggies. Its product is shipped throughout Georgia and to neighboring States.

The Newnan Cotton Mills is a big plant manufacturing cotton goods.

The fertilizer industry is represented by the Georgia Belle Guano Co., which has a modern plant. There are also various smaller industries, especially those meeting the local demands of town and county.

There are four banks here, three of them National. They have an aggregate capital stock of \$305,000, and their surplus fund amounts to more than \$200,000.

The town is lighted by electricity, and has a complete water-works and sewerage system to promote sanitary conditions. The Water and Light Commission awarded contracts last week for the laying of several thousand feet of mains to add to water and sewer capacity, and is planning other similar work for the near future.

The street improvements recently contracted for are progressing. This work includes a large quantity of brick and crooked brick block paving, for which \$50,000 of bonds was voted last spring. T. M. Goodrum, chairman of the council finance committee, negotiated the sale of these bonds and delivered them last week to the purchaser, the Robinson-Humphrey-Wardlaw Company of Atlanta. About \$52,000 was the purchase price. These street improvements will be accompanied by considerable similar betterments undertaken by owners of abutting property, and it is expected their portion of the work will amount to \$100,000. The J. B. McCrary Company of Atlanta is the engineer in charge of the city street improvements.

Railway facilities at Newnan are adequate, as 30 trains arrive and depart daily. A \$35,000 union depot is to be built for the Central of Georgia and the Atlanta & West Point railways. Bids are being considered and the contract will be awarded promptly.

## To Colonize 17,000 Acres

The Southern Land & Development Co. of Laurens, S. C., which was recently incorporated with a capital stock of \$30,000, has purchased 17,000 acres of land near McBee, S. C., for colonization. The com-

pany advises the MANUFACTURERS RECORD that this land is located in Chesterfield county and is accessible to several railroads. It proposes to divide the property into tracts to suit purchasers, and desires to induce immigrants to settle there. A large portion of the timber has been removed from the land, which is said to be particularly adapted to raising cotton, oats, corn and truck. N. B. Dial of Laurens is president of the company; Joseph T. Johnson of Spartanburg, vice-president, and E. P. Minter of Laurens, secretary-treasurer.

### RECLAMATION IN LOUISIANA.

#### A Summary of Work Accomplished and Under Way.

[Special Cor. Manufacturers Record.]

New Orleans, La., November 9.

Justin F. Denechaud of this city, secretary of the immigration division of the State Board of Agriculture and Immigration, has collated for the MANUFACTURERS RECORD the following memoranda of work in the field of the reclamation of the Louisiana wet lands:

#### LANDS ALREADY RECLAIMED.

Acres.	Location.	Work done by.
5,000	Raceland, Lafourche parish.....	Louisiana Meadows Co.
1,800	Lockport, Lafourche parish.....	Smithport Planting Co.
1,800	Paradis, St. Charles parish.....	Julius F. Funk.
2,000	Harang Canal.....	Louisiana Delta Farm Lands Co.
1,000	West End Addition.....	New Orleans Land Co.
300	La Branch, St. Charles parish.....	Suburban Realty Co.
40	West of Metairie Cemetery.....	Oakland Country Club.
75	Annex to Metairie Cemetery along New Basin Canal and Shell Road.....	
2,000	Bayou Des Allemands, St. Charles parish.....	St. Charles Land Co.
2,000	Bayou Des Allemands, St. Charles parish.....	Louisiana Meadows Co.
7,500	Lake Shore Tract.....	New Orleans Land Shore Land Co.

#### LANDS IN PROCESS OF RECLAMATION.

Acres.	Location.	Work done by.
31,057	Michoud Tract, Orleans parish.....	New Orleans Land Co.
5,000	Harvey Canal, Jefferson parish.....	Louisiana Delta Farm Land Co. of Chicago.
10,000	Bayou Des Allemands, St. Charles parish.....	St. Charles Land Co.
5,000	Bayou Barrataria, Jefferson parish.....	Louisiana Meadows Co.
2,000	Bayou Des Allemands, St. Charles parish.....	Louisiana Meadows Co.
11,000	Paradis, St. Charles parish.....	Louisiana Farm Land Co.
15,000	St. Mary parish.....	Morgan City Land Co.
20,000	Raceland, La., Lafourche parish.....	Louisiana Meadows Co.

The approximate cost of the work done by the Louisiana Meadows Co. is \$1,200,000. This is exclusively outside capital.

It is estimated that the cost of reclaiming the lake shore tract was \$40 per acre. Owing to the absence of others interested in tracts that have already been reclaimed and mentioned in the above tabulation, it is impossible to get anything like a total approximate cost of reclamation already accomplished. However, an average of, say, between \$20 and \$25 per acre would reach a fair estimate.

The Morgan City Land Co. estimates that it will cost \$22.70 per acre to reclaim 15,610 acres in St. Mary parish and \$25 per acre for the reclamation of a tract, 34,057 in acreage, in the parish of Orleans. This is known as the Michoud.

About 4000 acres of the Raceland property of the Louisiana Meadows Co. are under cultivation. This is the Lafourche parish. About 50 families have located on the tract during the last three years. About 1800 acres of the Lockport property are also under cultivation. In the neighborhood of 20 families, all native tenants, have located on this property.

Something like 500 acres of the Harang tract, reclamation hardly finished, are under cultivation. Ten families have located on it within the last six months.

Three hundred acres of the Paradis property are under cultivation. Twenty families have also located on this tract in the last year.

The city of New Orleans should come under the head of property already reclaimed, for the whole city has had to be reclaimed by pumps, canals and levees, and was wet land, the same as that being reclaimed for farming purposes.

There are a number of sections in the southern part of Louisiana where reclamation will shortly be in progress. In

some instances the survey has been made.

The parish of St. Bernard, from Poydras east, has been formed into a drainage district, as they now have under way work that will protect about 80,000 acres. This work will only drain naturally, and it will be up to the landowners inside of this district to install their own pumps.

In connection therewith the Phillips Land Co. has formed about 8000 acres of its land inside of this district into a sub-drainage district, and is now at work.

The Chicago-New Orleans Land & Improvement Co., owning lands south and west of Hopedale, has had surveys made of approximately 2000 acres, and, it is understood, is advertising for bids.

The Badger Louisiana Land Co., owning 27,000 acres east of Hopedale, has plans for taking in about 8000 acres, and a short time ago put a dredge at work on this reclamation.

The Delta Land Co., owning land about eight miles east of Hopedale, has about 1400 acres under levee and ditch, and is contemplating installing a pump in the near future.

ton-oil mills, brick works, marble works, fertilizer factory, cotton mills, etc. When the several cotton mills here are in full operation they employ about 2000 hands, to whom about \$6000 is paid every week, and produce cotton goods valued at \$3,500,000 annually. Approximately \$2,000,000 is the amount invested in these mills. The oil mills are three in number, and represent an annual business of \$500,000. All Griffin's factories represent an investment of nearly \$3,000,000, and when operating on full time they employ 3000 men, to whom over \$14,000 is paid each week. There are other enterprises at Griffin not included in the foregoing that represent a \$100,000 investment, employ 125 men and pay weekly wages totaling \$1900.

A few weeks ago the Central Georgia Power Co. (of Macon) began to transmit its electricity to Griffin from its water-power development at Jackson, about 25 miles distant. This electricity is being furnished to users at a rate much lower than that at which electricity was previously obtainable, and the people are therefore using it much more freely, both for light and power. It is believed that the introduction of this system at Griffin will result in steadily increasing additions to manufacturing enterprise here. The Jackson development is in the Ocmulgee River, and it is furnishing 24,000 horse-power, 15,000 of which is now available at Griffin.

The new postoffice building here will soon be completed. This is a \$70,000 structure to be equipped with oak furniture, costing about \$10,000. It is 30 feet high in a steel frame enclosed with red pressed brick, with floors, ceiling and roof of concrete, and partitions of terra-cotta.

Spalding county, in which Griffin lies, is a most prosperous agricultural section. It is extremely fertile, and its farmers are growing cotton, corn, sweet potatoes, etc., and the usual garden truck. The county's population is about 19,750, and about 7500 of this number reside at Griffin. This city claims to be the jobbing radius for 30 miles of territory wherein dwell 235,000 people marketing each year some 5,500,000 bushels of corn, 800,000 bushels of oats, 500,000 bushels of wheat and 125,000 bales of cotton.

### VIRGINIA CORN WINS.

#### Capabilities of Southern Land Given Wide Advertisement.

W. H. Dorin of Clover, Va., has been awarded the thousand-dollar silver cup offered by the International Harvester Co. for the best exhibit of 30 ears of corn made at the American Land and Irrigation Exposition in New York.

Mr. Dorin won over exhibitors from every section of the country. Mr. Dorin's corn was on exhibition at the Southern Railway's booth at the exposition, and attracted great attention. Farmers from all sections are showing extraordinary interest in the award. Mr. Dorin plowed his land 10 inches and subsoiled 12 inches more. He used 200 pounds of phosphate, his only fertilizer outside of clover turned under. The soil is the ordinary type of Southern Virginia, a gray sandy loam about eight inches deep, with a good clay subsoil.

Mr. Dorin's success shows what can be accomplished on Southern land. It was with the purpose of showing the agricultural possibilities of the Southeast that the Southern Railway Co. placed an extensive exhibit at this exposition and did everything possible to encourage individual exhibits on the part of the farmers throughout the territory served by its lines.

### Purchases 10,000 Acres Louisiana Wet Lands.

Oscar D. Weed of New York has purchased 10,000 acres of wet lands in Jef-

erson parish, Louisiana, for about \$53,000, and is reported as to begin reclamation work immediately with a view to putting the property on the market in lots of 10 or more acres. Mr. Weed was represented in his purchase by Edward J. Crusel of New Orleans.

### YEAR'S OUTPUT DISPOSED OF.

#### Clinchfield Fuel Co.'s Strong Position for Customers.

Vice-President and General Manager L. S. Evans of the Clinchfield Fuel Co., Spartanburg, S. C., telegraphs to the MANUFACTURERS RECORD:

"Our output for the current year is disposed of. Our facilities are adequate to meet the demand of customers depending upon us for their requirements. We have approximately 100,000 tons in our storage at Bostic, N. C., accumulated during the summer months. This is for the protection of our contracts during the winter season, which, as you probably know, is a period of uncertainties due to car shortage and labor and weather conditions. It is a season when coal users demand maximum shipments, overtaxing the capacity of mines generally. We feel that our arrangements will prevent any embarrassments from such causes."

### Nation's Coal Production.

The United States Geological Survey has issued its annual coal chart, showing the production of coal by States from the year 1814 to 1910. The figures relate a wonderful history of growth. In 1814 a total of 22 tons of coal was produced in Pennsylvania. In 1815 the percentage of increase was good, but still only 50 tons were taken out. By 1825 over 100,000 tons were mined in the two States producing. In 1850 the figure had reached 7,018,181 tons. In 1876 it was 53,280,000 tons. At the end of the century it was 269,684,027 tons. In 1905 it was 392,722,635 tons. In 1907, which it was supposed would remain the record year for some time, the production was 480,363,424 tons, but in 1910 the enormous total was reached of 501,596,378 short tons, a production larger by far than that of any other country in the world. So steady has been the increase in American coal production that most of the years have been record-breakers. The total production since 1814 has been approximately eight and a quarter billion tons.

### Virginia.

Having the semblance of an apple, "as we grow them in Virginia," is the cover of a booklet issued by Commissioner G. W. Koerner of the State Department of Agriculture and Immigration showing attractive views of the diversity of attractions for the homeseeker in Virginia and advising that the readers send for a copy of "A Handbook of Virginia," published under the same auspices. This handbook is one of the best issued in the South in the interest of the upbuilding of a State. It contains many half-tone illustrations of farming, mining, lumbering, manufacturing, fishing and other activities of the State, comments of representative men upon the many opportunities or the productive investment of mind, muscle or money, and detailed descriptions of each county and city, together with an excellent map.

The smoke nuisance having become more noticeable in Lyon, France, an order has been issued calling the attention of persons using coal in large quantities to an ordinance against tolerating in the city limits thick, continuous black smoke. There seems to be an opportunity of introducing in Lyon smoke-consuming systems or devices.



# Activity in Developing Metal-Working Industries.

[Special Correspondence Manufacturers Record.]

Louisville, Ky., November 13.

A decided growth in metal-working industries is in progress in Louisville. Many old enterprises have been enlarged, and many new ones have been started. The number of metal-workers putting out entirely new lines has been steadily on the increase.

Louisville's fame heretofore has rested largely on its manufactures of lumber and wooden products—stoves, farm wagons and plows, and saddlery and harness. Its manufacturers have kept close to the soil, supplying the farmers with equipment of various kinds or manufacturing the timber with which the section to the immediate south was covered.

The supremacy of the Kentucky city along these lines has been well maintained, as was indicated by the development of B. F. Avery & Sons, which has been in its magnificent plow factory, one of the largest in the country, for just a little more than a year. Its stove founders are still shipping goods all over the South and Southwest, and Louisville-made panels, furniture, caskets and other products of the woodworker are still being consumed in volume. The town has also been holding up its end as a flour-milling center.

But those who wanted to see an awakening in the direction of more diversified industries have been rewarded, for metal-workers have been coming in in greater number than ever before known. The result, it is hoped, will be not a reduction in the important interests which have long been here, but simply a widening and strengthening of the general industrial fabric of the community.

One of the most important developments has been in connection with the manufacture of motor trucks. Work along this line has been conservative, but at the same time on a sound basis which suggests expansions. The Electric Vehicle Co. recently began turning out a light delivery vehicle from a plant at Preston and College streets, which it equipped in excellent fashion. Shortly after the first truck was put on the streets a deal was made with the Kentucky Wagon Manufacturing Co. of Louisville, whereby that concern took over the entire equipment, good-will, designs, etc., of the new company, and the trucks will from now on be turned out at the big farm-wagon factory of the larger company at 3d and K streets.

The Kentucky company has been developing also, having had for some time plans under way for making light delivery wagons, contractors' dump carts, motor-truck bodies, etc., in addition to its general line of farm wagons, so that the absorption of the Electric Vehicle Co. fitted in well with its plans.

The E. C. Walker Manufacturing Co., maker of gasoline engines, has also plans for expansion which involve the erection of a plant for the building of motor trucks, and two cars have already been made and sold. It is likely that a new company will be formed for the purpose of making the truck. The Continental Car & Equipment Co., which has a large plant in Highland Park, and which sells contractors' equipment in all parts of the world, is also experimenting with a motor truck, and it is likely that the company will equip a department for manufacturing cars on a large scale, though its plans are as yet indefinite. This truck is to be an electric, the Walker car being a gasoline motor-driven affair. The main plant of the Continental has also been somewhat enlarged during 1911.

In the same connection should be considered the American Automobile Manufacturing Co., which was organized in Louisville, but which secured a plant in New Albany, Ind., just across the Ohio River. The company is now manufacturing passenger automobiles, and has plans under consideration for making motor trucks as well. It is hoped to begin the manufacture of these early in 1912.

The Henry Vogt Machine Co., manufacturer of ice machines and boilers, has made a number of improvements in its plant, and has installed a lot of new machinery, besides erecting a new building and thus doubling the erecting shops. The change has provided a complete forging department, and gives the company much larger capacity in both lines that it manufactures. The company has been prospering, and its sales of refrigerating equipment and boilers have been heavy during the current year.

The Henry H. Martin Manufacturing Co., organized by Henry H. Martin, has erected and equipped a foundry at Franklin and Cabel streets. Mr. Martin was formerly connected with Grainger & Co., structural iron manufacturers. Balke & Co., structural iron makers, have under consideration plans for a new plant, but these have not been definitely worked out.

Reference was made to the leadership of this city in connection with the manufacture of agricultural implements. One of the oldest concerns in the city is the Brinly-Hardy Company, which has been at Preston and Main streets for over half a century. During the past three months it has rearranged its plant so as to provide for the manufacture of a greater number of steel-beam plows, and has installed much new forging and blacksmithing machinery.

The reorganization of the old Louisville Bolt & Iron Co., the plant of which has been idle for a number of years past, in spite of futile efforts which have been made to put it into active operation, has been one of the encouraging features of recent developments. The new company is the Louisville Steel & Iron Co., which has a capital stock of \$400,000. The plant is now being gotten into working shape, and it is expected that it will be turning out material in old-time fashion in the near future. Its general offices are in Indianapolis.

The new machine shops of the Kentucky & Indiana Terminal Railroad Co. will be a considerable addition to the iron-working interests of the city. This company, which is owned by the Southern Railway and the Baltimore & Ohio Southwestern, is spending several million dollars, and one of the things to be done is to erect shops for handling the repair work of the roads mentioned for the divisions having their terminals in Louisville. The site for the plant has been chosen, and designs for the shops are now being worked out. W. M. Mitchell is general manager of this company.

Additions to the number of supply manufacturers have included the Vendome Copper & Brass Co., of which Elmore Sherman is the head, and which has expanded from a comparatively small concern when it was started, a little over a year ago, to one of considerable proportions, and Matt Corcoran & Co., who have equipped a copper-working shop on 5th street north of Main.

A number of new machine shops have been put into commission comparatively recently. The Frederick-Ruggles Com-

pany has equipped a shop, and is manufacturing automatic measuring devices, as well as conducting a brass foundry for the manufacture of castings. L. R. Veatch & Co. have gradually been enlarging their machine shop at 1st and A streets, where milling machinery is repaired and remodeled. The Marine Electric Co., recently incorporated with \$10,000 capital stock, is preparing to equip a shop for the repair of electrical apparatus, and the Shields Steam Specialty Co. will make valves, couplings, etc., as soon as machine tools and other equipment be provided for the shop which it is to operate.

A considerable addition to the metal-working interests of the city has been in connection with brass shops. Some of them are making plumbers' supplies, and others general foundry work. One of the most important of these is the Hillen Manufacturing Co., which has a plant at Preston and Pearl streets. George F. Hillen is the chief stockholder of this concern, which has equipped a plant of considerable dimensions. The Van Vredensburgh Company, at 510 W. Chestnut street, is repairing brass dies of various kinds by a new process which has been patented by Richard Van Vredensburgh, the proprietor of the concern, and the Henry L. Koehler Manufacturing Co. has put in some new machinery in its shop, which is used exclusively for brass die making. The Houser Manufacturing Co. is a brass-working concern, specializing in dental supplies and turning out automatic revolving spittoons, silver and gold rolls and brass specialties for use by dentists. The Art Brass Manufacturing Co., which was organized to take over the Apex Manufacturing Co., has a shop at 5th and Walnut streets, which has been considerably enlarged since the change. It manufactures plumbers' goods and brass specialties of various kinds.

Along miscellaneous lines an important new industry is the Abell Elevator Co., which has equipped a plant for the manufacture of freight and passenger elevators on 8th street near Main. This company was recently capitalized at \$50,000. Garland H. Mourning is in charge of the plant, the equipment of which has about been completed. The Red Chief Manufacturing Co., makers of corn mills and shellers, has received an addition of capital through a reorganization recently, and the result of this has been the installation of a lot of new machinery and the enlargement of the capacity of the plant. The Webster Loose Leaf Filing Co., maker of filing devices, is operating a factory in the Snead Power Building on Market street, and will probably continue to expand its plant, as the demand for devices of this kind is large. The Kentucky Gear & Machine Co. has under consideration plans for enlargements, but these are still indefinite.

The Model Generator Co. is operating a plant at 18th and Magazine streets for the manufacture of acetylene gas plants. The plant was formerly in the East, and was removed to this city several months ago. It is expected that it will be gradually enlarged, as there is an excellent demand for the plants which the company is turning out. A prospective new industry of some consequence is that of Mulloy Bros., who have a patented device for the weighing of coffee, and who are planning to organize a company for the manufacture of the machine on a large scale. At present a small plant at 1st and Market streets is equipped for the purpose.

Though the Alvey-Ferguson Company, manufacturer of conveying machinery, decided to build a new plant near Cincinnati, and it was at first announced that the Louisville plant would be dismantled and the machinery removed to the Queen

City plant, the correspondent of the MANUFACTURERS RECORD has been repeatedly assured that the Louisville factory will be kept in operation. It is hoped that this will prove to be the case.

This superficial and rapid review of the metal-working industries in Louisville indicates that the plants which are already in operation are finding it worth while to add to their efficiency by making additions and purchasing new equipment, and that many new ones have been started or are planning to start. The excellent geographical position of this city, which makes it almost an ideal point for distribution purposes, is one of the strongest arguments advanced for it, and the easy accessibility of supplies, both pig-iron and finished materials, is, of course, advantageous, as Southern iron can be brought into Louisville at a low rate, and steel plates and bars from the Pittsburgh mills can be had at delivered prices which compare favorably with those quoted for any other point in the country. The completion of improvements on the Ohio River should emphasize this condition.

One of the handicaps which have been in evidence in connection with developing the metal-working interests of the city has had to do with the scarcity of skilled machinists. Naturally the comparatively small number of industries employing such men was responsible for this, but as the number has grown the available supply of expert labor has increased, until now this question is of considerably less importance than it was. However, it is safe to say that the expert machinist out of a job can easily find employment in Louisville, as there are several shops on the lookout for good men in this line.

Another feature of the situation which is gradually being remedied is that which has to do with tax laws. Like a good many other Southern States, Kentucky has been somewhat slow to adopt the progressive measures which Northern and Eastern communities have found advantageous, but the Bluegrass Commonwealth has realized what should be done in this direction, and a constitutional amendment will be adopted at the session of the Legislature beginning next January providing for a change in the system which will be of immense advantage to manufacturers. This amendment is now almost assured, and it will be only a short time before Kentucky will be able to offer advantages of this kind equal or superior to those enjoyed anywhere else in the country.

G. D. CRAIG.

## Muskogee's Improvements.

Mayor D. H. Middleton of Muskogee, Okla., writes to the MANUFACTURERS RECORD:

"Kindly give as much prominence as possible to the announcement that the city of Muskogee, Okla., with mutual consent, has abrogated its contract with Alexander Potter to act simply as an advisory engineer on the improved water supply, sewerage system and garbage-disposal plant now under construction, and has entered into a new contract with him, placing the entire engineering work under his direction, control and responsibility. The city is so well satisfied with the services of Mr. Potter that it is imposing greater responsibility on him and greater confidence in his services than ever before. The work embraces a five-foot intake tunnel, one-half mile long, and intake tower; a 6,000,000-gallon purification plant; a reinforced-concrete circular reservoir, 200 feet in diameter, 30 feet deep; new 24-inch pipe line to city from reservoir; pumping machinery; outlet sewer to Arkansas River, eight miles long, 48 inches in diameter, main stem; sewage disposal for the northern district of the city."

# Workmen's Liability Insurance.\*

By C. O. BARTLETT, of C. O. Bartlett & Snow Co., Cleveland, O.

During the last few years, and especially the last year, very much has been said about workmen's liability insurance, and quite a number of our States have enacted laws pertaining to this important question. The bone of contention is: Who shall pay the bill? It is certainly very nice for every workman in a mine, factory or on a farm to have a workman's insurance policy, and especially would this be true if somebody else paid the premium.

There seems to be a sort of general opinion that insurance companies are robbers; that they have made vast fortunes out of the employers' insurance business, and if the State or General Government would go into this business the rate would be very much less. Now, the true facts of such matters, judging from the past, are that all business done by a city, State or general government costs nearly twice as much as when done by private corporations or individuals, and we see no reason why there should be any variation from this general rule in the insurance business, and I think it is fair to assume that when any State, or the United States as a whole, get into the liability insurance business the cost will increase the same as it has done in other lines, and the idea that a lot of money will be saved is only a myth.

In taking up this question we should consider, and consider most carefully, that where there is one large mining corporation or other corporations there are hundreds of smaller ones doing business in every State, and I wish to speak especially of these medium-sized corporations or companies.

The large companies like the Philadelphia & Reading Coal & Iron Co., the United States Steel Corporation, the Pittsburgh Coal Co., the Standard Oil Co., the International Harvester Co. and some others of similar type control very largely the selling prices of their products; in other words, when they say thumbs up, up they go, and when they say thumbs down, down they go, but the medium fellow with competition on every corner cannot do this, and if we add to the expense of these companies, even at the rate of 1 per cent. a year on the capital stock, it will mean, just as sure as the sun will rise tomorrow, that thousands of them will go to the wall.

To illustrate this fact, let me state that two years ago the State of Ohio, which is one of the largest manufacturing States in the Union, one of the best located for manufacturing purposes, with plenty of coal at a low price and of a good quality, with cheap iron ore of a good quality, the best of water and rail transportation facilities, the best of farming lands from one end to the other to supply bread and meat, and perhaps more advantageous than any other State in the Union, put a tax of one-tenth of 1 per cent., that is, a special tax of one-tenth of 1 per cent. on all corporations, and last year they increased this by 50 per cent., making a yearly tax of 1½ mills on every dollar of the capital stock. In other words, a company of \$60,000 capital stock is now compelled to put into the State treasury, as a special yearly tax, \$90 per year. This may seem like a small amount, but last spring more than 1200

of the Ohio corporations were delinquent in this special tax, the delinquency amounting to more than \$2,000,000.

To further illustrate: If a tax of one cent a ton were put on all coal mined in the United States it would mean very nearly 1 per cent. on the selling price of all the coal mined in the United States, and, according to Mr. Parker, the output of coal in the United States in 1910 was 501,000,000 tons, and at one cent a ton means over \$5,000,000. I do not hesitate to state that the 33,000,000 tons of coal mined in the State of Ohio last year did not pay dividends to the owners of the mines of more than 2 per cent., and a tax of 1 per cent. would mean ruination to very many of them, for we assure you that a great many mines in the State of Ohio are running extremely small dividends.

According to this same report by Mr. Parker, the average price of bituminous coal is a little over \$1 a ton. Now, then, it has never been estimated by an actuary that the workmen's liability insurance tax against any mining or other company would be less than this amount, and probably it will be very much more; possibly 2.00 per cent. more. In fact, we are told by insurance companies that it will be fully this much, and we have no reason to believe that the insurance companies are liars. At any event, so important a measure as the workmen's liability insurance should receive the most careful consideration. When we look at it carefully and boil it down it simply means this: That all workmen in mines and factories will have a liability insurance policy, so that in case of accident they shall draw a certain amount a week, say 80 per cent., of the amount of their wages; that in case of death their families will draw a certain amount a week up to a certain maximum, say, \$3000 or \$4000.

So far this seems easy. It is certainly a mighty good thing for each workman to have an insurance against injury or death, but from here on comes the question: Who shall pay the bill? Naturally the workmen are anxious for the employer to pay the premium, and naturally the employer is somewhat loath to do it. We must not forget the fact that over 80 per cent. of the men engaged in business, mining or other kinds of business, do not meet with success. Again I wish to say to the miners and manufacturers that if it is legal to insure the workmen in the mines and factories throughout the cities and towns, it is equally as important to insure the workmen on the farms. There seems to be a sort of prevailing idea that mining is a very dangerous occupation, yet statistics show that mining is far less dangerous than a very large number of manufacturing industries. By statistics given by the Government it is found that in the State of Pennsylvania mining is about one-third as dangerous as making nuts and bolts. It is no more dangerous than railroading, and only half as dangerous as farming. By such statistics as can be had in this country, and especially in Germany, more than 45 per cent. of all the accidents happen on farms, and there is no question whatever, in my judgment, but that farming as it is carried on at the present time in the United States, with its improved machinery, is far more dangerous than mining. Now, if it is necessary to protect the fellow in the mines, at the bench or forge, why is it not

equally as well to protect the man on the farm, behind the plow, or behind the corn shredder, and anything that protects one without protecting the other should never be sustained by any court, and I hope it never will be.

Very much is being said about the high cost of living. There are two very important reasons for this. One is the scarcity of water. When the rain fails to come, the corn, wheat and vegetables wither and die. The other reason is the scarcity of farm labor throughout the entire country. You cannot expect the boys to remain in the country and work 12 hours a day for \$1.50 and less when they can get two or three times this amount in a mine and work six or eight hours a day, or in a factory and get at least double the amount. Now, if we throw in an insurance policy besides, it will only add to the burden.

That all manufacturers of the United States are very much interested in this question, and are very anxious indeed to have some law enacted, there is no question, and I feel sure I am speaking the sentiments of a very large part of the manufacturers in the State of Ohio when I state that they do not feel as though they should pay the premium. It seems to me that the only just way to do this is for the employer to pay half and the employee pay the other half, and let the general government, either State or National, bear the expense of the burden of carrying out the provision of the law.

The true object of a liability insurance should be to prevent accidents, and from an experience of many years I feel absolutely confident in making the assertion that if any mine or factory insures its employees and pays for the entire insurance, that the number of accidents will increase very rapidly indeed. In fact, I haven't the slightest doubt about it, but if you say to the workmen you pay half of this and I will pay the other half, then you will have prevented to a very large degree all accidents, for the reason that the workmen will be equally as interested and will try in every way to prevent accidents, as well as the employer.

Another very important measure, and we think by far one of the most important of this whole question, is that this will bring the employer and employee to a very close and very friendly relationship, and that is one of the great questions which the manufacturers are trying to solve today, for, say what you will, we are all in the same boat and should work in harmony as much as possible.

It is a terrible thing for the head of any mine or factory to learn that one of his workmen has met with a serious accident, possibly one or both legs broken, and you can rest assured that every one of us is only too glad to do anything in our power to prevent these things, but we fully realize, however, that accidents will happen, that they always did, and all it is possible for any man to do is to prevent them as far as possible. In other words, I wish to emphasize the fact that prevention should be the main object in any workmen's liability insurance law. That should be the goal at all times, in all places and under all conditions.

Very much has been said about the splendid laws regarding liability insurance in the old countries, and especially is this so regarding Germany. One would almost believe by hearing some of the addresses and by reading some of the articles of the magazines that it was almost a paradise to work in Germany; that it was next to a front seat in Heaven, but, like all other questions, there are two sides to this one, and the other side we do not hear so much about.

They do not tell us that the taxes in Germany are two and sometimes more than four times as much as they are here; that is, the direct tax, and then there is another tax there, too, in this great Germany, a tax that is far more mighty than dollars and cents, and that is, that every boy must be taken from his home and give five years of his time to the army. Will you just for a moment consider what this tax would mean to you and to me. Just as your boy or mine is ready to enter college, how would you like to have the Government step in and say, here, Charlie or William, you come with me for five years; I want you, and he has to go. Now, then, if an observing man knows anything, he knows that army life is very bad for a young man, and I am told by good authority, by some of the men who have been through this army in Germany, that many of the good moral boys, in fact, the majority that enter the army, come out very bad men at the end of their term, and I say right here that if there is any one thing that I am thankful for, it is that we do not live under such laws as they have in Germany.

But let us go a little farther into these wonderfully good laws of Germany. One would almost be led to believe that many of our workmen would immediately go back to work under these favorable conditions, but how many mechanics from your town left for Germany last year? I venture to say that you could count the number on your four fingers, and I can furthermore venture to say that then you can divide it by four, and in many cases you can subtract one from this amount. On the other hand, how many of the workmen from that country have come to this country to better their conditions? Over 180,000 German people came here last year. They have bettered their conditions, and we are very glad to see them and want them to come.

I would like to quote a little from an article written by Dr. Friedensburg, who had very much to do with this German workmen's insurance law. It is possible that some little errors may have been made in this translation, but I think not. The quotations are as follows:

"On October first 25 years had passed since liability insurance for the workmen was introduced and the employers' associations and the imperial department of insurance were created. This was celebrated with a great expense of ink and speech. A monument was erected, on one side of which Germany was represented as marching ahead of the world, with the motto 'Love your Brethren.'

"Much has been done since in this department to cool down this enthusiasm. At the beginning foolish questions of predominance arose. Titles and ranks were discussed. Then came some personal discussions between the first president of the department and the Secretary of the Interior. The consequences of this dispute are felt even now. Finally, the Catholic party tried hard to get control of this department and give their friends jobs. More important than these personal frictions was the question of jurisdiction which arose immediately in all directions, and in which the department of insurance always lost. To the most evident disadvantage of the system all kinds of courts tried to get their piece of the pie and to gain thereby influence on the new insurance system.

"The worst of all, the national calamity and disease of the people is the theory of the benevolent legislator and the sentiment that the liability insurance is a benevolent institution, and not a judicial. It is very easy to be liberal with the other fellow's money. This might be inscribed

\*A paper read before the American Mining Congress at Chicago.



as a motto over the whole workingmen's insurance act as it is today in Germany. Here appeared suddenly a mysterious organization about which nobody knew anything unless that it had plenty of money to spend and that it was destined to take care of the poor workingman.

"For the workingman nothing is too expensive. Hospitals and convalescent sanitariums are fitted up with indescribable luxury. In one of these a bowling alley was built at a cost of \$4500. The services of best specialists are called upon continuously and the most expensive medicines are lavishly applied. Why? It costs nothing; it is free of charge.

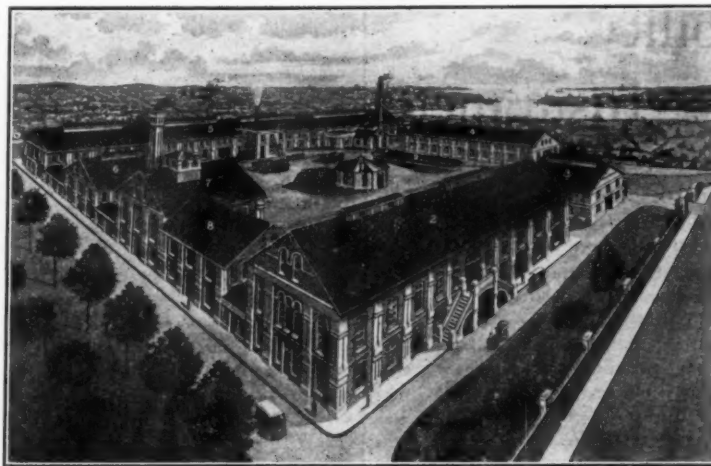
"It is no wonder there is a general desire to get a pension, and get it for the rest of one's life, even if it is very small. No means are too vile, no proof is too absurd to establish the claim. Those familiar with the conditions will remember the accidents happening to farm hands in splitting wood. One might suppose that wood is not used for anything else than to cook feed for the cattle. This is always stated, because in this case only the injured man will receive a pension. Injuries received in dance halls, and which are taken jokingly or boastfully, are made the foundation for lawsuits which will last for years. Injuries which would have entirely disappeared in a few weeks will not heal if caused in an accident; the wounds are kept open intentionally as long as possible.

"The liability insurance law, at least the way it is applied, has not only brought us a new disease, the 'pension hysteria,' but it has perfectly corrupted large classes of the people by undermining the sense of right and wrong. We have attained just the opposite of what the Social Legislature aimed at in adopting the liability insurance. It was intended to avoid the better fights for damages by the injured workingman. At the present time the institution of lawsuits without cost to the injured has made these quarrels take immense proportions, and not less than 20,000 lawsuits of this kind busy the department of insurance every year, and this constantly-growing expense, which is still further increased by the cost of taking evidences, is a serious danger for our national finances. There is no doubt but that the terrific increase in the cost of living is the liability insurance, and what will happen the day when industry slows down?

"During the year 1910 the number of accidents reported amounted to 675,905, of which 133,718 were allowed damages. The amount paid during the year 1910 for accidents was 165,000,000 marks; 161,000,000 marks in 1909; 157,000,000 in 1908 and 150,000,000 marks in 1907."

Now, gentlemen of the American Mining Congress, please remember that in Germany law is enforced very much better than it is in the United States, and again remember that under the German liability law the employers only pay one-third of the cost. It seems to me that our country is fairly going mad on this "pension hysteria."

Last year, notwithstanding the fact that the old soldiers have been dying off very rapidly during the last few years, we paid out in pensions more than \$150,000,000, and this amount as compared with the contemplated liability insurance will only be a drop in the bucket. If this agitation and legislation against the business industries of our country keep on at the rate they have for the last two years, very serious consequences will surely come and this country will realize that we have killed the goose that laid the golden egg.



THE BALTIMORE GAS APPLIANCE MANUFACTURING CO.'S PLANT.

The Baltimore Gas Appliance Manufacturing Co., whose plant is shown in the accompanying illustration, commenced active operation this week when the first castings for "Oriole" gas stoves were poured. The plant is composed of the buildings as shown in the illustration on a site covering five acres at Hamburg and Bayard streets. The buildings are of brick, and the interiors have been remodeled by the company to make an effective manufacturing plant. The grounds about the buildings are neatly parked. All the operations of manufacture have been systematically laid out from the melting of the pig-iron to the assembling of the finished product, so that scientific routing and management have been put into effect from the beginning. The material enters the plant on a siding of the Baltimore & Ohio Railroad and is stored near the foundry cupola ready for use. The cupola is at one side of the foundry-room, and one charge is heated and poured each week day when the plant is in full operation. From the foundry castings are carried on the narrow-gauge railroad trucks to succeeding departments. The completed article is turned out ready for shipment at a point near where it entered as "raw material," having completed the circuit of the buildings.

The machinery at this plant is operated by Westinghouse electric motors ranging from 20 horse-power down to as small as one-eighth horse-power. Individual motors are used in most cases, but group motors are used where a number of small machines are operated sufficiently near each other. A complete repair shop for its own machinery will soon be installed. Pattern shops for both metal and wood patterns, blacksmith shop and nickel-plating outfit, special grinding tools, electric welding machine, and all tools necessary to complete equipment of the plant have been provided. Otis elevators have been installed with capacity of from 1000 to 3000 pounds. They are provided with automatic safety gates and are electrically operated. Special attention has been paid to the safety appliances to protect workmen from injury about the various machines. Elevator openings are fitted with automatic fire doors. A large amount of storage room is provided in order to enable the company to carry a full stock when necessary. This permits work at a steady rate and provides for a surplus stock to be drawn upon when the demand is extra large. The company plans to turn out 150 stoves per day for the first year. The trade name "Oriole" has been adopted by the company for all its gas stoves and appliances, which is considered equivalent to saying that they are "made in Baltimore."

Unusual provision has been made for the comfort of employees. Individual lockers are supplied, and ample bathroom facilities, including shower baths, are provided. Through these facilities the workmen are able to come to the shops in the morning dressed in their street clothes, leave these in their individual lockers and put on their working garments, and at the close of the day's work get the benefit of the bathing facilities, leaving their work clothes in the lockers and putting on their street garments. These facilities are so fully appreciated by the employees that they are almost universally used. This feature, which is not always available to employees, adds largely to their comfort and the pleasure of doing work.

The president of the company is H. W. Hunter of Baltimore, and the superintendent is M. L. Longfellow, formerly engaged in stove manufacture in Hamilton, O. He is the designer of the "Oriole" gas stoves and appliances, and has had extensive experience in this line.

#### GREAT PHOSPHATE DEPOSITS.

##### United States Geological Survey Issues Report on Western States.

When the great coal deposits of Pennsylvania, West Virginia and other States of the Appalachian region were being formed, many millions of years ago, in what the geologists term the Carboniferous age, there was also being accumulated in the Rocky Mountain region enormous mineral deposits which are of a widely different character, but which may nevertheless play an economic part in the industrial development of the United States comparable even to that of coal. These are the phosphate deposits of Wyoming, Utah, Idaho and Montana, which are now known to contain hundreds of millions of tons of phosphate rock, constituting a most important artificial fertilizer. Until recently it had been generally assumed that the phosphate deposits of South Carolina, Florida and Tennessee afforded an "inex-

haustible" supply, but recent estimates by the United States Geological Survey show that at the present rate of increase in phosphate mining these eastern deposits are likely to be exhausted within a generation.

The Geological Survey has just published a bulletin embracing three reports on Western phosphate fields, one covering a portion of the Idaho phosphate reserve, by R. W. Richards and G. R. Mansfield; another on rock phosphate near Melrose, Mont., by Hoyt S. Gale, and a third being a reconnaissance report on the phosphate deposits in Western Montana, by Eliot Blackwelder. The report by Messrs. Richards and Mansfield includes a detailed description of the Idaho field, the investigations having been made by townships, the outcrops examined and the tonnage of high-grade phosphate rock estimated. The result is highly gratifying. Tonnage estimates were made of the phosphate rock in nine townships, and in no township was

there found to be less than approximately 60,000,000 tons of high-grade phosphate rock, containing for the most part from 50 to 82 per cent. phosphoric acid. Phosphate rock containing 60 to 65 per cent. phosphoric acid is generally considered high grade.

One of the townships examined contains an estimated 293,000,000 tons of phosphate rock, the net result of the Survey's work showing an approximate tonnage of 2,500,000,000 long tons with 70 per cent. phosphoric acid. Nor does this include the tonnage of the Montana phosphate withdrawals, which aggregate nearly 34,000 acres.

Mr. Gale's report is a brief description of his discovery last year of the Montana deposits near Melrose, withdrawals of which were immediately made by the President. The Survey's tests of a number of samples collected by Mr. Gale show the rock to be high grade, approximately equivalent to 75 per cent. phosphoric acid. The thickest beds are six or eight feet in thickness. A six-foot bed would contain approximately 21,000 long tons to the acre.

"One of the most important considerations in connection with the discovery of phosphate rock in Western Montana," says Mr. Gale, "is its significance as to the probable extent of the Western phosphate fields, for it now appears probable that similar deposits may extend over a large part of Western Montana. Their nearness to the large copper smelters is important, for these smelters produce great quantities of sulphuric acid and sulphurous acid fumes which are usually allowed to go to waste through the smoke-stack of the plant. Reduction of phosphate rock by means of sulphuric acid appears to offer what is perhaps the largest commercial use for these waste products of the smelters." Mr. Gale quotes a report showing the daily loss at the Anaconda smelter alone of about 3800 tons of sulphuric acid.

Mr. Gale suggests a further innovation in the treatment of phosphate rock which would greatly reduce the transportation charges that at present stand in the way of development. By this process a ton of concentrated phosphate would equal three tons of ordinary superphosphate. The fertilizer distributor would therefore pay freight on one ton where he now pays it on three.

Mr. Blackwelder's contribution on phosphate in Western Wyoming is a preliminary report, and shows large and widely-distributed deposits. He also mentions the presence of low-grade rock.

#### A Massachusetts Banker in Arkansas Agriculture.

"I wish you would state to the readers of the MANUFACTURERS RECORD," writes Geo. R. Brown, secretary of the Little Rock Board of Trade, "that last year Charles E. Carter, who resides at Salem, Mass., a banker and broker at 832 Old South Building, Boston, came to Arkansas to see what he could see. He bought an even 1000 acres of the prairie land near the town of Lonoke, a short distance east of Little Rock. This year he put 215 acres in rice and harvested 14,000 bushels, and also raised 450 tons of prairie hay, 100 tons of cowpea hay and 150 tons of Japan rice straw—all this on 215 acres. On a 60-acre tract he raised a double crop, first bringing through 1118 bushels of spring oats, and is now cleaning up 100 tons of hay on the same tract for which he is offered \$15 per ton. Mr. Carter has an Arkansas man for manager, and is now figuring on changing his residence from Massachusetts to Little Rock. If there be those who doubt my statements, I suggest that they write to Mr. Carter."

## Increasing Wealth of Mississippi and Louisiana in Diversified Farming.

By CAPT. J. F. MERRY, Manchester, Iowa.

The United States flag is now entitled to forty-eight stars, representing as many States, each of which is susceptible of growing at least a few varieties of food products that to a greater or less degree enter into the cost of "high living," concerning which we hear so much. Of the four dozen States referred to, a number

two States mentioned have adhered tenaciously to the one-crop method? The answer to this is easy, but it will necessitate a little patience on the part of the reader. The more than 5,000,000 acres of alluvial lands in Mississippi without an ounce of fertilizer will, if properly cultivated, produce a bale of cotton, or if im-

properly cultivated a half bale per acre. Cotton is a crop on which merchants have for years advanced supplies, which every planter and farmer in Mississippi must furnish his negro help or tenants a season in advance.

The farmers of Mississippi understand full well that their soils will produce luxuriantly any crop grown in that latitude, but until within recent years they have not taken the trouble to investigate the markets for products other than cotton. They have had little experience with the net results from any other crop, and naturally they have steadily and persistently continued the growing of this fleecy staple. The same is true of Louisiana in the growing of sugar-cane and rice, as well as cot-

ton. Many planters are devoted exclusively to one of the three crops mentioned. When cotton is worth 15 cents per pound, as during the past season, it has given satisfactory net returns, but even at prices mentioned the results would have been more satisfactory had the planters and farmers grown everything necessary for use upon the farm. One planter from Mississippi in a letter to the *Memphis Commercial-Appeal* made the statement that 65 per cent. of the money received by planters for their cotton was paid to farmers of the North for mules, horses, flour, meats and other supplies. It is not difficult to see how eight-cent cotton under such circumstances could not make any net money for the farmer, and, as a mat-

### CROPS THAT ARE RAISED IN MISSISSIPPI AND LOUISIANA.



CORN AND COWPEAS.



A RADISH FARM.



JAPAN CLOVER, THREE TONS PER ACRE.



FIELD OF OATS IN APRIL.

are properly designated "agricultural States," and of this number at least two of them—Mississippi and Louisiana—are especially adapted to diversified farming.

The variety of soils, the abundant annual rainfall, the long seasons and the genial sunshine are a few of the important requisites for a diversity of crops with which the Creator has endowed these two States.

Cotton, cane, rice, corn, wheat, barley, oats, alfalfa, lespedeza, Burr clover and Bermuda; every variety of vegetable, fruits and nuts; horses, hogs, mules and sheep; in fact, nearly everything produced in the animal or vegetable kingdoms that tends to the comfort or physical development of man or beast is successfully and profitably grown in Mississippi and Louisiana.

The question may be asked if this extravagant statement be true, why is it that for years the planters and farmers of the



PICKING STRAWBERRIES.

ter of fact, these conditions are now thoroughly understood by the tillers of the soil in Mississippi and Louisiana.

In 1908 the boll-weevil cotton pest found his way into Northern Louisiana and completely destroyed many a cotton field. In the fall of that year this persistent enemy of cotton bolls crossed the Mississippi River and invaded a few counties in Mississippi. The destruction in Louisiana had been so complete that the negroes of Southern Mississippi, and especially in the Natchez district, gathered up their belongings and boatload after boatload of them took passage for Northern Mississippi, where it was thought the weevil would not make his appearance. This unexpected drawback to cotton culture not only demoralized the negroes, but it had the effect of making the merchants throughout that territory exceedingly careful as to whom credit should be given the coming year. Under these conditions



the Chamber of Commerce of Natchez arranged for a two-State Farmers' Institute to be held at Natchez November 25, 26 and 27. Speakers who were familiar with the workings of the boll-weevil were upon the program, and every phase of cotton culture and its pests was thoroughly discussed. It was indeed a blue time for cotton growers, but the old saying proved true in this case that it is "always darkest just before day." The writer was invited to deliver an address at this institute, using for his subject, "Diversified Farming." In the very beginning we suggested that if the soil of Mississippi and Louisiana was adapted only to the growing of cotton, then, indeed, the farmers of that territory were most unfortunate, but we insisted such was not the case, and the object of the address on that Thanksgiving night was to prove that these two States were adapted to the growing successfully and profitably of a great variety of crops for which the boll-weevil had no affinity. In the preparation of this address we had taken pains to write a number of farmers in Mississippi and Louisiana for a statement over their own signatures as to the actual results from their farm operations that very season, and when we introduced these letters showing that one farmer had harvested 100 acres of winter rustproof oats that averaged 60 bushels per acre and sold on the market at 75 cents per bushel; that another had 80 acres of corn that would average 75 bushels per acre and would sell in the spring at \$1 per bushel, and another had given special attention to the growing of hogs with most satisfactory returns; another had made \$8000 net from 25 acres of cabbages; another \$1600 from six acres of strawberries, and another \$1280 from 20 acres of alfalfa, the audience cheered enthusiastically. The letters were from farmers whose veracity was unquestioned, and their success in the growing of crops other than cotton had the desired effect.

Farmers who for 40 or more years had grown little else than cotton appreciated as never before the possibilities of Mississippi and Louisiana soil, and from that day until this the two States mentioned have grown a great variety of crops, and in no section are the advantages of diversified farming more manifest than in the Natchez district. The Natchez Chamber of Commerce is entitled to much credit for taking the initiative in urging the farmers of Mississippi and Louisiana to diversify their crops; to engage in stock-raising, corn growing, vegetable gardening and fruit growing. What has been the result? Last season, where three years ago no attention was paid to stock-raising, a packing-house was established at Natchez, and during the busy season more hogs were received than the packing-house had capacity for handling. The farms of Mississippi and Louisiana are each year taking on the appearance of well cultivated and well improved Northern farms.

The boys' corn clubs of Mississippi and Louisiana have been important factors in turning the attention of farmers to the value of corn as a food product, and to the special adaptability of the soil of these two States to the growing of corn—the greatest of all farm crops. Mr. H. E. Blakeslee, Commissioner of Agriculture for Mississippi, in a recent article concerning the value of boys' corn clubs in his State, made the following statement:

"Five years of corn culture have done more than 75 years of cotton in the way of advertising the State. The immigrants Mississippi wants are good, substantial, thrifty farmers from the North. But they turned a deaf ear when the statistics of cotton production were shown them. The minute corn and red clover and wheat and oats were mentioned, these farmers were interested and wanted to see the figures

and hear the facts. Now people of that class are coming to Mississippi, and the corn club boys are the ones who have shown that as a corn-producing State Mississippi is second to none. The 10,000 boys at work all over Mississippi this year in worthy contest are making records and history.

"Four years ago the average yield of corn per acre in Mississippi was 12½ bushels. It had advanced to 17½ bushels year before last, and last year it went to 20¼ bushels. Those figures are only mildly interesting. Then be it known that in 1909 the total amount of corn raised in Mississippi was 40,745,000 bushels. At 50 cents a bushel, this crop was worth \$20,375,000.

"In 1910 the crop of Mississippi jumped to the enormous total of 66,000,000 bushels of corn, an increase of 26,000,000 bushels! A trifling increase of \$15,680,000 of the wealth of Mississippi in one year.

"A total of \$44,880,000 was the value of the corn crop of Mississippi last year. Those are big figures. Let us bring it a bit nearer home. There are 78 counties in Mississippi. It means that the wealth per county of the State has been greatly augmented.

"The pro rata of each county in wealth was increased in the neighborhood of \$574,000. If you don't believe it, figure it yourself—corn averaged 68 cents a bushel last year.

"Bringing it down a bit closer, Mississippi has a population of 1,797,114, according to the last census, and this wealth gives something over \$30 per capita of wealth added to Mississippi's total in one year. If somebody else got yours, that is your fault, but that does not change the figures or the truth of them.

"That is considerable corn, and considerable money, and the influence of both on the material advancement of the State is amazing in more ways than one. As truly as the constitution follows the flag, so does live-stock follow the course of corn. Where corn is abundant, there stock is abundant. Where stock is abundant money is more plentiful at all times of the year; there is more fertilizer for fields and gardens and a consequent improvement in agriculture; the growing of truck as a side line, to say nothing of permanent advantages to the soil. Government tests show that a soil which seven years before had been thoroughly manured still showed superiority over that which had none on it at all.

"The dairy industry in Mississippi is becoming an important one—something that was never thought of during the ruinous reign of King Cotton alone. Mississippi never had a meat-packing plant before; she never was a seller, but always a buyer of meat, nor did she ever have her bank deposits increase \$9,000,000 before in one year, as they did last."

The following are the results of some of the boys' experiments last year:

	Bushels per acre.
Oscar Bass.....	229.93
Willard Bennett.....	170
Hampton Pitterson.....	143
John W. Bowen.....	137
Thomas Bowen.....	129
W. H. Rounds.....	139.40
Errol Saucier.....	158.60
Casper Woodward.....	130
Rosa Lawhorn.....	190.10
Kinnie Divine.....	217

Scarcely an experiment was below 90 bushels per acre, which is double the average in the best so-called corn States of the North and Northwest. These phenomenal results in the growing of corn in Mississippi and Louisiana would hardly be worth mentioning if it proved only the adaptability of the soils of these two States to the growing of that one great crop. But it does more than this, it proves beyond a question that the farmers of Mississippi and Louisiana are making no mis-

take in cultivating a great variety of products for which there is a constant demand in the markets of the North. This season one Mississippi farmer had over 100 and one Louisiana farmer 140 varieties of farm products on exhibition at their local fairs. The farmers of these two States are to be congratulated on having splendid transportation facilities for the handling of their products. The Illinois Central Railroad reaches direct the cities of Cincinnati, St. Louis, Chicago, St. Paul, Minneapolis, Sioux City and Omaha. This company also has close connections with other lines reaching the markets of the East and West, and the reputation this company has acquired of meeting the farmers more than half way in the quick and safe marketing of their products is well deserved. Others may be equal, but none are superior to Mississippi and Louisiana in the variety of crops that can be grown within their borders.

Mississippi has long been recognized as a great cotton-producing State. It will continue to be so, but it is now a great corn-producing State. It ships to early Northern markets more vegetables than any other Southern State. It can grow alfalfa equal in quality and quantity to any of the Western States.

Louisiana grows 75 per cent. of the rice produced in the United States. It is properly called the "sugar bowl of the nation." It grows great quantities of cotton. It ships to early Northern markets more strawberries than any other State in the Union, and yet these products are only a few of the great number that are now profitably grown in Mississippi and Louisiana.

#### National Rivers and Harbors.

In an invitation to the eighth annual convention of the National Rivers and Harbors Congress at Washington December 6-8, President Joseph E. Ransdell and Secretary J. F. Ellison say:

"Existing conditions are radically different from any which the National Rivers and Harbors Congress has been called upon to face at any other time since its organization. The present House of Representatives, in which all appropriation bills must originate, has more new members than any other for 20 years, and has passed under the control of another political party. There has also been a change in the chairmanship and very largely in the membership of the Rivers and Harbors Committee. So far as waterway legislation is concerned, there is practically a new House and a new committee. It is vitally important that these new members shall be informed, as their predecessors were, of the strong, steadily-growing, nation-wide sentiment in favor of annual appropriations for rivers and harbors and the adoption of a policy which will insure the early inauguration and speedy completion of a comprehensive system of connected waterways. The expression of this sentiment, the voicing of this demand, properly belongs to the annual convention of the National Rivers and Harbors Congress. The coming convention should be so large in numbers and so representative in character that its utterances will command the consideration to which they are entitled.

"Every reader of these lines is interested in some particular waterway or harbor, and desires to hasten the completion of its improvement. If this result is to be surely and speedily attained there must be continued and cordial support of the National Rivers and Harbors Congress in its work. Waterway improvements which are to be finished soon enough to benefit the present generation of business men must be carried out by annual appropriations, adequate appropriations and

continuing contracts. None of these essentials can be secured through special legislation for particular projects; they can be obtained only as items in a general river and harbor bill dealing with the waterways of the whole country, and such bills can be passed only by a majority of the Senators and Representatives from all the States in the Union. The nation-wide public opinion which is needed to secure the adoption of such a policy can only be developed by a national organization."

#### Gas Men to Meet in Atlanta.

Atlanta, Ga., November 7.  
The eighth annual meeting of the National Commercial Gas Association, C. L. Holman of St. Louis, president, will be held in Atlanta, Ga., in December, 1912, this being the first time since its organization that it has met outside of the cities with less than three-quarters million population, and will be the first time it has ever been held in the South.

The association has a membership of about 3000, composed of manufacturers of gas appliances, dealers in the same, officers of gas manufactures and dispensers, and, in fact, most any official connected directly or indirectly with the gas business. Through the efforts of the Atlanta delegation, composed of Messrs. R. C. Congdon, manager; J. C. Rushing, superintendent of the new business department, and E. D. Brewer, clerk of the Atlanta Gas Light Co., the convention was induced to hold this meeting in the South. Many of the delegates favored Atlanta as a meeting place, as it would be a good stopping place on the way to Southern winter resorts. Another reason the South was selected was that the manufacturers of gas stoves and appliances have centered their activities more or less on Southern business.

The meetings will be held in the Auditorium, while the exhibits of the manufacturers will be arranged around the main part of the building. Already 61 out of a possible 100 exhibitors of gas appliances have signed contracts for space.

ROY G. BOOKER.

#### Prizes for Texas Crops.

[Special Cor. Manufacturers Record.]

Dallas, Tex., November 10.

Five hundred bright, new \$20 gold pieces in 29 stacks, the biggest containing 125 of the yellow disks, will attract the attention of delegates and visitors at the third annual convention of the Texas Industrial Congress, Henry Exall, president, to be held in Dallas on December 20. Fifteen of these glittering piles of gold will be presented to men who have this year produced the largest and best crops of corn and cotton, 10 acres of each, and the remaining 14 will be given to boys under 20 years of age who have cultivated two acres of corn and two acres of cotton. It is possible that some of the prizes may be awarded to women and girls, as they, too, have contested for the honor of the biggest yields.

The average yield of corn in Texas in 1910 was but 20 bushels, while the average yield of cotton per acre in favorable years is about one-third of a bale, but the reports, verified by proof, that these contestants will make are going to be a big surprise in this unfavorable year of drouth, as many of them have yields of corn ranging from 30 to more than 100 bushels per acre and from one-half to two and one-half bales of cotton.

And these yields can be secured by every farmer who is willing to pay proper attention to the preparation of his soil, the conservation of its fertility, the selection of his seed and the intelligent cultivation of his crops.

## Georgia's Drainage Law.

By J. V. PHILLIPS, United States Drainage Engineer, Waycross, Ga.

Some time ago I noted a short discussion of Georgia's new State drainage law in your October 5th issue. Feeling that this article does not give this law its full justice, and wishing to supplement it with a general summary of the law so as to show the simplicity of its working as well as its effectiveness, I have gone over this law very thoroughly, pointing out the principal sections. But before reviewing the contents of the act it might be well to give a few brief statements of the steps leading up to the passage of this act by the 1911 General Assembly.

Although this State has some 2,700,000 acres of wet and overflowed lands which comprise the most fertile of her soils, up to within the past year or so the people have given little thought to the reclamation of these lands because of the great timber and turpentine workings that have occupied their time and thought. Chatham county, in which Savannah is located, had constructed some 800 miles of canals and levees to reclaim and dry the marshes and swamps about the city of Savannah to promote the health of the city primarily, the agricultural benefits being only an incidental effect. This was accomplished under a special drainage law, which was local in its effect, as it only applied to the coastal counties, where drainage was urgent for the health of that section. One or two other small drainage undertakings for agricultural purposes scattered over different parts of the State was all that had been accomplished. Preliminary examinations were made in several of the southern counties of Georgia during the winter of 1910 by the drainage bureau of the United States Department of Agriculture, and the reports on this work showed that there was much land throughout this entire section that could be made very valuable and productive with a small expense spent for their drainage. The very favorable reports made by the engineers of the bureau caused the people of Georgia to realize the many thousands of acres that were lying idle, whereas with a small expense they could make them their best farming lands, second to none in this country. Finding that they could not proceed to do this work on a large scale, they set about to draft a suitable drainage law that would apply to all sections of the State, and the review of this law as given below shows how well they have succeeded. This law has been commended by many who are familiar with the different drainage laws of other States as being among the best yet enacted.

With this model drainage law under which to work, with the national drainage bureau's co-operation (for it has established an office in this State to look after the drainage of this State), with the many thousands of acres of the most fertile soil from which the timber has been cut and which is now ready for the agriculturist, and with a climate that is unexcelled for its healthfulness and long growing season, the future reclamation of the wet and swamp lands of Georgia should be very bright and promising.

The Georgia drainage law of 1911 is entitled "An act to promote the public health, convenience and welfare by leveeing, ditching and draining the wet, swamp and overflowed lands of the State, and providing for the establishment of levee or drainage districts for the purpose of enlarging or changing any natural water-courses, and for digging ditches or canals for securing better drainage or providing better outlets for drainage; for building levees or embankments and installing tide

gates or pumping plants for the reclamation of overflowed lands, and prescribing a method for so doing; and providing for the assessment and collection of the costs and expense of same, and issuing and selling bonds therefor, and for the care and maintenance of such improvements, when constructed, and for other purposes."

The clerk of the superior court, together with the board of commissioners of roads and revenues, or the ordinary of any county, constitute the court having jurisdiction and power to establish the drainage districts.

A petition signed by a majority of the resident landowners, or by the owners of three-fifths of the land in a certain territory, giving the approximate boundary, its area, and general statement regarding drainage conditions, and stating what the proposed improvements are to be, accompanied by a bond for the costs of making an examination of the lands described in the petition, is sufficient to start a drainage district.

The clerk of the superior court then issues a summons and serves it on all of the defendant landowners who have lands within the prescribed boundary of the petition and who have not joined in the petition. Upon the return day the court then appoints a competent drainage engineer and two resident freeholders of the county or counties in which the lands are located as a board of viewers to examine the lands in the said petition and see if the petition is valid. In their report to the clerk the board of viewers set forth:

1. Whether the proposed drainage is practicable or not.
2. Whether it will benefit the public health, any highway, or be conducive to the general welfare of the community.
3. Whether the lands sought to be benefited will be by the proposed improvement.
4. Whether all lands that are benefited are included in the proposed drainage district.

They also include in their report a map showing elevations, areas owned by the several landowners, and the proposed improvement, with its approximate cost, to corroborate their report.

With this information before the court, it then approves or disapproves the findings of the board of viewers. If it disapproves the forming of the drainage district, the petitioners then have to pay all preliminary costs. If the court approves the forming of the drainage district, then the cost of this preliminary work goes into the general expense of the improvement and is apportioned out among the several landowners according to each man's assessment, and a day is named by the court for further hearing. The petition being passed upon favorably by the court, notice is then given for two consecutive weeks by county publications and by postings within the district that on a certain day the court will further consider the findings of the viewers. In case there are non-resident landowners, the court gives them written notice at least 30 days before the hearing.

On the day of the hearing the court shall consider all objections to the findings of the viewers, and will decide as to the validity of such claims, if there be such made.

This question being settled, the court then proceeds to acquire the necessary right of way. If the said right of way passes over lands not affected by the improvement, the district has the right of eminent domain according to Chapter 9 of the Code of 1910.

Any landowner in the district that thinks that the court has not given him justice may appeal to the superior court, his appeal being accompanied by a bond to cover all costs in case he loses his claim.

The district being established, the district then has a complete survey made, giving all necessary maps, plans and specifications.

All persons being damaged by the district in any way get the amount of such damages from the funds of the district.

The lands are divided into five classes of assessment, and it is the duty of the board of viewers to apportion the lands of the several owners into their proper class.

The final report of the board of viewers being in the hands of the court, at least 20 days' notice must be given by the said court before a final hearing can be made. Of this hearing proper newspaper and posting notice must be given.

At this hearing the court carefully reviews the report of the board of viewers and hears all objections to the said report, and has the authority to decide as to the validity of any objections that are filed. And if, in the opinion of the court, the cost to make the proposed improvement is greater than the accruing benefits, it may dismiss the proceedings at the expense of the petitioners. On the other hand, if the court finds that the benefits will exceed the costs, it will confirm the report of the viewers.

Again, any party aggrieved with the confirmation of the assessors' report may appeal to the superior court.

The clerk of the superior court of all counties keeps a "drainage record" that shows maps, etc., relating to all drainage in their respective county.

Drainage districts being established according to the above method, the court then appoints three drainage commissioners (they having first been elected by the landowners in their district). This board of drainage commissioners is a corporate body and has the same rights and powers that usually pertain to corporations.

The law goes on to discuss the letting of contracts, appointing a superintendent of the construction, acceptance of bids, accompanying bonds, right of contractor to enter upon all lands within the district, the construction of bridges across all public highways, the right to pass under railroads, damages to said railroads, benefits to the railroads, cost of keeping improvement in repair, fines for doing damage to said improvements, rights of owners of lands within the district—but not adjacent to the improvement—to use the ditch as an outlet, and the collections of the drainage tax. Where the total assessment per acre is not over an average of 25 cents, the entire assessment being made at one collection, but where this assessment is over the average of 25 cents per acre bonds may be issued by giving special notice, etc.

## West Virginia's Rich Resources for Agriculture.

[Special Correspondence Manufacturers Record.]

Parkersburg, W. Va., November 1.

So much is being said about the wonderful richness of West Virginia in coal, oil, gas, timber, stone, glass sand, pottery clays and other things used in the manufacture of various articles of great commercial importance that the fact is generally overlooked, even by her own people, that agriculture is the chief business, and the most important in the State. The various daily journals of the country are filled every now and again with the great output of coal, the big production of oil, the wonderful gas potentialities, the immense timber yield of West Virginia and the money meaning they have for the people, and practically no mention is made of its agriculture. The farmer says nothing and "saws wood," which in his case means plowing, planting and harvesting his crops, and at the end of the year has more to show in the way of accomplishment than any of the others. While coal, the most loudly published product of the State, was produced in 1910 to the amount of about \$65,000,000, six agricultural items—corn, oats, wheat, hay, potatoes and live-stock—were grown to a value of \$88,000,000. The fruit, berries, garden "truck" and other things brought forth by the husbandman would easily run the gross amount up to \$100,000,000, or almost 50 per cent. more than the returns from coal. Yet with all this, the surface of the agricultural possibilities of the State has hardly been more than scratched.

And the biggest part of the story is to come. West Virginians are sending out of the State \$38,000,000 a year for the purchase of those agricultural products of daily necessity which her farmers fail and refuse to raise for them to eat. The conditions prevailing in the mining regions and about the manufacturing centers are such that prices are extraordinarily high, and the assurance of profit to the agriculturist and market gardener is absolute.

Yet not only in these sections, but throughout all parts of the State, thousands of acres of fertile land are lying fallow, or are being utilized in the production of those things that bring least reward to the husbandman.

In no section is this neglect of opportunity more apparent than in the broad acres of rich bottom and fertile uplands that lie on the West Virginia side of the Ohio River, and in no section of the country are there more inviting prospects for immediate competence and final wealth for those who put their faith in the soil and improve it by their works. From Marshall county, 80 miles above, to the Big Sandy River, 140 miles below this point, stretches as fine a body of agricultural land as lies on the continent, highly productive, easily tillable and pierced by a railroad and bordered by a navigable river from end to end. A stranger passing over the Ohio River division of the Baltimore & Ohio Railroad for the first time is struck by the fine "lay" of the land, by the splendid profusion of corn, wheat, potatoes or other field products to be seen from the car window, and marvels at the power of the soil which can after more than a century of cultivation bring forth such crops with so little artificial aid. Then he begins to think of the great markets that lie within easy reach, and is still more forcibly struck by the almost entire absence of market gardens and truck farms and the general lack of care of the orchards.

By the system of locks and dams which the General Government is building in the Ohio River, that stream will be rendered navigable for steamers and loaded barges for the entire year from Pittsburgh to Cairo, where it merges itself in the greater Mississippi, and the entire valley is expected to spring forward under the impetus of a new commercial and industrial life as a consequence. Andrew Carnegie is quoted as saying that the Ohio Valley is destined to become the industrial center of



the country, and it is believed that the installation of the locks and dams mentioned will be the first great step toward the consummation of that prophecy. Think, then, what it will mean to own one of these fine farms and have it all primed and ready to do its part in furnishing the necessities of life to this great field of industry.

A Congressional committee took a trip down the entire length of the river a few months ago, and every member returned to Washington ready to recommend the abandonment of the piecemeal style of work heretofore adopted and the substitution of an appropriation to pay for the entire scheme of improvement, and calling for its completion at the earliest possible moment. It is, then, a matter of very few years before the entire work will be done, and the Ohio River will be ready to carry freight every day in every year. It should need neither exemplification to make the man with agricultural tastes understand nor coaxing to make him take advantage of the opportunities thus being spread out before him.

The soil of these bottom lands is a rich alluvial, the moisture is such that crop failure is virtually unknown, and its low altitude combines with these to make it ideal for trucking purposes. In addition to the field crops mentioned above, the Ohio Valley has long been noted for crops of the finer sort. In watermelons the counties of Wood, Jackson and Mason have enjoyed reputations reaching back more than a century, and spreading far and wide through the adjoining States, and boatloads are shipped each season to the markets both up and down the river, while trainloads go to those centers not to be reached by water. These melons are not only of fine size, but in flavor they are unsurpassed by those from any other section. Cantaloupes also grow here in great abundance, and of the highest excellence. Tomatoes, beans, cabbage, onions, lettuce, beets, carrots, turnips, peas—everything that grows from the ground outside the most southerly States in the temperate zone can be raised here with little effort and to the highest state of perfection. In fruits, apples, peaches, plums, pears, quinces, cherries—all make fine crops, while strawberries, raspberries, dewberries and blackberries grow in the greatest profusion, and some of them without cultivation.

In fact, it is just beginning to dawn upon the farmers of this valley that they have some of the finest fruit land to be found anywhere. This came by the best kind of practical illustration. The State agricultural department has been trying for years to make the owners of these lands believe they can make fortunes in fruit, but with little success. Finally, a year or two ago James H. Stewart, head of the agricultural experiment station at the State University, formed a company and bought one or two old apple orchards. These were carefully trimmed, cultivated and sprayed, and the result was a yield of apples that was astounding to the former owners. One old orchard of a few hundred trees thus bought up and worked up produced a crop which sold for \$5000 the first year it had a fair chance. More money than the former owner had ever gotten in any one year for all he raised on the entire farm, of which the orchard occupied but a small portion. It was all in the "know how" and the "do," and as the "know how" is taught without money and without price by the agricultural department, the whole thing resolves itself into the "do."

An interesting experiment in fruit development has recently been started here by four or five enterprising young men of this

place, in which Frank P. Moats, lawyer, is the leading spirit. Mr. Moats has reached a place at the bar that for one of his age is most flattering, and advanced far enough in politics to have been speaker of the House of Delegates of the State Legislature. He became a deep student of politics in its bearing upon the sociological and economic condition of the country, and, abandoning politics in its narrow sense, looked about to see what he could do to improve matters in his own immediate community, that appealing to him as the surest way to learn what could be done for the country at large. He saw that the farmers of this valley were wasting their time in growing the heavier and cheaper crops, when they should be giving their attention to the finer and higher-priced class; that their farms, situated as they are, should be turned into orchards and truck gardens.

So he persuaded C. B. Kefauver, another young man well known in politics, and two or three other friends among the young men of this city to join him in the purchase of a farm of 240 acres lying five or six miles above the city, with the idea of demonstrating what could be done with Ohio River bottom land. There was on the land an apple orchard of several hundred trees, and this was properly cared for, with the result that this year 2000 barrels of apples were gathered. There was also some other fruit. When it came to marketing the product Mr. Moats found that, while the consumers were paying very high prices for fruit, the producers were receiving so little that it left them without profit for their work. So he determined, with the support of his partners, that the products of their farm should be sold to the consumers of this city without the intervention of middlemen, and that the producers and the consumers, so far as the products of that one farm were concerned, should divide between them the big difference hitherto dividing them. In other words, this company will open its own market in Parkersburg, and there it will sell its fruit at prices properly compensatory to itself and not burdensome to the purchaser. These young men anticipate a considerable struggle with the retail dealers and the commission men, but they are the kind who thrive on opposition, and it is a tolerably safe prophecy that they will win out. Their intention is to devote their entire farm to the production of fruit and berries, with the object of furnishing the people of this city with the best of both, fresh from the farm, each kind in its season.

While this experiment will have a bearing on this city alone, so far as the consumers' end of the matter is concerned, it will have a much wider influence with respect to the other end of it—that of the producer. If it is demonstrated that farms in this section can be made to produce all kinds of fruits and berries successfully and profitably, there is no question but the example of these young men will be followed by others, who will not attempt to cater to small markets anywhere, but will send their product to the various centers of population so easily within reach of this valley. Pittsburgh, with its hundreds of thousands of tributary population cooped up between bare and beetling hills—Cleveland, Columbus, Chicago, Cincinnati, Washington, Baltimore, Philadelphia, New York—all are within from 8 to 24 hours of any point in the territory mentioned by fast freight, and all have mouths wide open for the good things that ought to go from here to fill them.

A fact not generally known to even the people of this State is that the counties in the lower end lying along the Ohio River, as well as those but one tier back,

have become renowned for their production of Burley tobacco. For years tobacco has been grown to some extent in Putnam and Lincoln counties, and latterly there has been a very considerable increase in the output. This was accelerated somewhat about three years ago, when a warehouse was established at St. Albans, in Kanawha county, in close proximity to both the counties above named. The first year there was paid out for tobacco at this warehouse the sum of \$100,000, which was thought then to be a big thing. And so it was—then. Now it seems very small. A year or so ago a company was formed and a tobacco warehouse built at Huntington in time for handling last year's crop. The farmers brought in their tobacco and left it to be sold on commission, and during the month of December 10,000,000 pounds were sold at auction to buyers representing all of the big tobacco manufacturing concerns. Get those figures fixed in your mind—10,000,000 pounds. The price probably averaged 15 cents a pound, which would make the total of money paid out \$1,500,000. This year the crop is expected to be much larger, and the warehouse is being enlarged to take care of it. But \$1,500,000 for one year's product of a crop so short a time ago held to be negligible is a pretty big thing. Still that is not all the tobacco that was produced hereabout, by any means, for the American Tobacco Co. has half a dozen or more warehouses right in the same territory, including one in Huntington, and doubtless bought as much more.

This tobacco was grown in Wayne, Cabell, Mason, Jackson and Wood counties, lying along the Ohio River, in Putnam, on the Great Kanawha, and in Lincoln and Logan, traversed by the Guyandotte. And there is still another stem to this tobacco story. When Burley tobacco is mentioned the hearer immediately sees visions of broad Kentucky fields and fierce Kentucky nightriders, and it is hard to dissociate either from the other; but here in this alien land, so to speak, grows Burley tobacco of a superior quality to that grown in its old Kentucky home. For purposes for which the finer grades of Burley are used—that is, for smoking tobacco and for wrappers—that produced in the West Virginia counties of Wayne, Cabell, Mason, Putnam, Lincoln and Logan is superior to the best of the Kentucky product. In the counties of Jackson and Wood the quality is not quite so high, though good enough to make it bring a profitable price. As a very small portion of the land upon which tobacco can be grown in these counties has as yet been planted to it, there can be no doubt of a tremendous increase in the amount produced in the next few years, making this one of the most important money crops to be gathered in this section of the State.

Back from the river the land rises to high plateaus, and there is some very fine grazing ground. This is especially true of Roane county, into which a branch of the Baltimore & Ohio reaches from Ravenswood, in Jackson county, some 30 miles below this place. There are some of the best grazing lands in this county that can be found anywhere, and the cattle raised there are famed in the markets for general excellence. The shipments run from 15 to 20 cars a week from this county, and the money return is a very considerably item to the farmers. There is a good deal of general farming carried on in Roane in addition to cattle raising, and the farmers are finding that they can raise as fine fruit there as can be produced anywhere when they give their orchards a fair chance.

From the high grounds of Jackson county also, reached by another spur from

the Baltimore & Ohio, thrown out a few miles below Ravenswood, come other fine cattle and excellent fruit, while the valley section along the big river is famed for many agricultural products. But the same story applies to the whole of this section. Nature has done everything that has been done, and only man is idle.

Looking from the car window as the train whirls along through this fine stretch of fertile land, seeing practically no market gardens between Wheeling and the mouth of the Big Sandy, and recognizing the potentialities of soil and climate, augmented by unsurpassed transportation facilities, the passerby is led to speculate as to how long it will be until thousands of acres are devoted to trucking, and the present large farms, cut into many small parcels, shall furnish homes for thousands of happy people, busy about their task of helping to feed the many millions lying within easy reach. I fear it will be either after the present generation of landowners has been succeeded by sons who better appreciate their opportunities, or their lands have been sold to aliens to the soil and by them utilized to the highest pitch by intensified farming and truck growing.

I have thus dwelt at length upon the valley of the Ohio, not because it furnishes the only opportunities for profitable farming, nor because it offers the best to be found in West Virginia, but because its extensive reaches of level bottom lands, long famed for productiveness, their shores washed by a navigable stream that leads to many markets, their fields split by a branch of a great railroad system that runs to many more, appear to be the field of the most glaring neglect, seem to call more loudly and more insistently than any other for immediate attention.

The efforts of the State agricultural department to arouse the people from their lethargy to a realization of the richness within their grasp has been supplemented by the Baltimore & Ohio Railroad, which has sent demonstration trains over its lines to show what can be done and how to do it, accompanied by scientific farmers who explained the things that farmers should be most interested in knowing, but the people have been listless and slow to act, and little advantage has been taken of the opportunities to learn. In the Muskingum Valley, on the other hand, which runs out from the Ohio River on the Ohio side 12 miles above this city, the efforts of the Baltimore & Ohio to encourage truck farming has given a new impetus to those who have long engaged in the business, and the result is a largely-increased yield. Those thrifty gardeners send to Pittsburgh each day through the trucking season from 15 to 25 carloads of high-priced produce, that brings in an annual return totaling many thousands of dollars.

The northernmost four counties of this State—Marshall, Ohio, Brooke and Hancock—have long been the home of a thrifty farming population, and the lands there are kept in a high state of productiveness. Wool growing is among the chief agricultural pursuits, and the finest wool raised anywhere in the United States is grown there. Fine cattle also adorn the sides of the low, round-topped hills, and productive orchards add their wealth of fruit to the richness of the general store.

When the farmers of this valley realize the potentialities of the soil as they should be realized, and when from Moundsville to Kenova it is made to present a succession of market gardens and truck farms, as some day it will inevitably be made to do, then will there be upon this hemisphere no more prosperous section nor a happier or more contented people.

GEO. BYRNE.

## AUTOMOBILES BY CLASSES.

## Details for Five Years of the Rapidly-Growing Industry.

In an additional preliminary statement of the general results of the thirteenth census of establishments engaged in the manufacture of automobiles, including bodies and parts, issued by Census Director Durand, the number and value of machines by kind, for 1904 and 1909, and the horsepower rating by classes for 1909 are given.

The number of establishments increased 317 per cent.; capital invested, 653 per cent.; the gross value of products, 730 per cent.; cost of materials, 901 per cent.; value added by manufacture, 596 per cent.; average number of wage-earners employed during the year, 528 per cent.; amount paid for wages, 580 per cent.; number of salaried officials and clerks, 682 per cent.; amount paid in salaries, 654 per cent.; miscellaneous expenses, 389 per cent.; primary horse-power, 647 per cent.

There were 743 establishments in 1909 and 178 in 1904, an increase of 317 per cent.

The capital invested as reported in 1909 was \$173,837,000, a gain of \$150,753,000, or 653 per cent., over \$23,084,000 in 1904. The average capital per establishment was approximately \$234,000 in 1909 and \$130,000 in 1904.

The value of products was \$249,202,000 in 1909 and \$30,034,000 in 1904, an increase of \$219,168,000, or 730 per cent. The average per establishment was approximately \$335,000 in 1909 and \$169,000 in 1904.

The cost of materials used was \$131,646,000 in 1909, as against \$13,151,000 in 1904, an increase of \$118,495,000, or 901 per cent. In addition to the component materials which enter into the products of the establishment for the census year there are included fuel, rent of power and heat, and mill supplies.

The summary of number and value of machines by kind of power includes all the machines made either as a chief or minor product, whether by establishments classified as "Automobiles, including bodies and parts," or under other designations in accordance with their chief products. There was a total of 316 establishments making one or more machines in 1909, and 168 in 1904, an increase of 88 per cent. The number of machines increased from 22,830 to 127,289, or 458 per cent. Of these, gasoline increased from 19,837 to 121,274, or 511 per cent.; electric, from 1425 to 3639, or 155 per cent., and steam, from 1568 to 2376, or 52 per cent.

Of the total number of machines, 122,505, or 96 per cent., were pleasure and family vehicles; 1428, or 1 per cent., public conveyances; 68 were for government and municipal purposes, and 3288, or 3 per cent., were business vehicles.

The largest number of machines, 51,457, or 40 per cent., were rated at 30 but less than 50 horse-power; those rated at 20 but less than 30 numbered 35,380, or 28 per cent.; those at 10 but less than 20, 29,657, or 23 per cent., and those at 50 but less than 90, 3224, or 3 per cent. There were 7542 less than 10 horse-power and only 29 rated at 90 or more.

If the automobiles and bodies and parts made in the 245 establishments engaged primarily in the manufacture of other products be added to the figures in the general summary, the total value of products in 1909 becomes \$254,585,000. In 1904 the by-products reported make the total value \$30,913,000.

Comparative summaries follow, giving the general statistics for the industry, the number, kind and value of machines, 1909 and 1904, and the horse-power rating by classes, 1909:

Automobiles, Bodies and Parts—General Summary, 1909 and 1904.

	Census		Per cent. of increase, 1904-1909.
	1909.	1904.	
Number of establishments.....	743	178	317
Capital.....	\$173,837,000	\$23,084,000	653
Cost of materials used.....	\$131,646,000	\$13,151,000	901
Salaries and wages.....	\$58,173,000	\$3,416,000	591
Wages.....	\$9,479,000	\$1,257,000	654
Miscellaneous expenses.....	\$48,694,000	\$7,159,000	580
Value of automobiles made.....	\$20,872,000	\$4,266,000	389
All other products.....	\$164,216,000	\$23,751,000	591
Value of products.....	\$249,202,000	\$30,034,000	730
Value added by manufacture (products less cost of materials).....	\$117,556,000	\$16,883,000	596
Employees:			
Number of salaried officials and clerks.....	9,233	1,181	682
Average number of wage-earners employed during the year.....	75,721	12,049	528
Primary horse-power.....	75,550	10,109	647

\*In addition, in 1909, 719 automobiles, valued at \$899,000, and in 1904, 1138, valued at \$879,000, were made by establishments engaged primarily in the manufacture of other products.

†In addition, in 1909, bodies and parts to the value of \$4,484,000 were made by establishments engaged primarily in the manufacture of other products.

Number and Value of Machines, by Kind of Power, and Per Cent. of Increase, 1909 and 1904.

Kind of machines.	1909.		1904.	Per cent. of increase.
	Number.	Value.		
Gasoline:				
Number.....	121,274		19,837	511
Value.....	\$155,068,100		\$20,446,100	658
Electric:				
Number.....	3,639		1,425	155
Value.....	\$6,564,500		\$2,496,300	163
Steam:				
Number.....	2,376		1,568	52
Value.....	\$3,482,500		\$1,688,000	106

Number of Machines, by Horse-Power Rating, 1909.

Class.	Total number.	Horse-power.					
		Less than 10.	10 but less than 20.	20 but less than 30.	30 but less than 50.	50 but less than 90.	90 or more.
Pleasure and family vehicles.....	122,505	7,217	27,807	33,905	50,488	3,059	29
Buggies.....	4,582	482	3,705	339	56	—	—
Runabouts.....	36,496	4,538	17,818	10,933	3,043	157	7
Touring cars.....	76,433	177	5,415	21,878	46,117	2,825	21
Closed.....	5,928	1,571	855	729	749	63	1
Other varieties.....	1,026	449	14	26	523	14	—
Public conveyances.....	1,428	10	630	537	207	44	—
Cabs.....	1,203	—	627	521	55	—	—
Omnibuses.....	225	10	3	16	152	44	—
Government, municipal, etc.....	68	5	2	12	33	16	—
Ambulances.....	32	—	—	—	17	2	—
Patrol wagons.....	36	5	—	6	18	14	—
Business vehicles.....	3,288	310	1,218	926	729	105	—
Delivery wagons.....	1,875	264	884	628	98	1	—
Trucks.....	1,401	46	330	297	627	101	—
Other varieties.....	12	—	4	1	4	3	—
Total.....	127,289	7,542	29,657	35,380	51,457	3,234	29

## GOOD ROADS

## WEEK'S HIGHWAY RECORD.

## Progress in Southern Road and Street Improvement.

[Full details of highway undertakings are given in the Construction Department.]

## Bonds Voted.

Pawhuska, Okla.—Strike-Axe township of Osage county voted \$30,000 bond issue for road construction.

Towson, Md.—Baltimore county voted \$1,500,000 bond issue for roads.

## Bonds to Be Voted.

Boston, Tex.—Bowie county will vote on \$500,000 bond issue for road improvements.

Bryan, Tex.—Brazos county will vote on \$200,000 bond issue for road improvements.

Decatur, Ala.—DeKalb county will vote December 7 on \$50,000 bond issue for road improvements.

Fort Gaines, Ga.—Clay county will vote December 7 on \$30,000 bond issue for road construction.

Forsyth, Ga.—Monroe county will vote on \$300,000 bond issue for road improvements.

Guntersville, Ala.—Marshall county will vote on \$125,000 bond issue for road construction.

Lynchburg, Va.—City will probably vote on \$650,000 bond issue for street improvements.

Vicksburg, Miss.—City will vote January 23 on \$100,000 bond issue for street improvements.

## Contracts Awarded.

Baltimore, Md.—City awarded contract at \$48,930.40 for paving streets in vicinity of Fifth Regiment Armory.

Birmingham, Ala.—City awarded contract for paving Eighth avenue.

Chester, S. C.—Chester county awarded contract to construct sand-clay road.

Fort Worth, Tex.—City awarded contract to pave Wheeler street and Alston avenue with vibrolithic.

## Contracts to Be Awarded.

Birmingham, Ala.—City will pave Eighth avenue.

Brewton, Ala.—Escambia county receives bids until November 29 for grading, draining and surfacing with gravel about nine miles of road.

Carrollton, Ala.—Pickens county will construct road.

Columbiana, Ala.—Shelby county will construct road from Calera to Pelham.

Dickson, Tenn.—Dickson County Turnpike Co. will construct road.

Elsberry, Mo.—Hurricane Township Gravel Road Co. receives bids until noon November 23 for construction of 8½ miles of macadamized and gravel roads.

Galveston, Tex.—Galveston County Commissioners approved extension of seawall boulevard driveway through Fort Crockett reservation.

Greenville, Tex.—City will pave section of East Lee street.

Houma, La.—City will open and pave Lafayette street.

Little Rock, Ark.—City Council authorized formation of improvement district to pave Cumberland and other streets.

Little Rock, Ark.—City appropriated \$14,500 for paving in Gaines street improvement district; also appropriated \$13,500 to West 23d street improvement district.

Richmond, Va.—City appropriated \$2290 for paving portion of Belvidere street.

San Antonio, Tex.—City will improve Garden and South Presa streets and Roosevelt avenue.

Shreveport, La.—Caddo parish will construct five roads.

Tampa, Fla.—City will pave Nebraska avenue and repair Seventh avenue.

Tampa, Fla.—City will construct sheet cement sidewalks in various subdivisions.

Tulsa, Okla.—City receives bids until November 21 for paving portions of several streets.

Washington, D. C.—District Commissioners will improve with macadam 13th street, and lay sidewalks on north and west sides of Park road.

## Motoring in the South.

The Southern department of the Touring Club of America has established headquarters in Atlanta, with Dallas D. Armstrong, vice-president, in charge. Permanent headquarters have been secured at the corner of Peachtree street and Ponce De Leon avenue. Through the Southern headquarters the Touring Club of America will gather information as to routes all through the South, and will disseminate that information and its vast fund of general road directions obtained through the club's other departments and branches, which have been established in 12 of the leading cities. The Atlanta office will serve the double purpose of finding where motor tourists can go comfortably, assured of good hotels and garages, and telling them how to get there. Mr. Armstrong, who will have the direction of the Touring Club's activities in the Southern States, is a prominent and successful business man of Atlanta, and has been for many years interested in touring. The Touring Club will seek especially to promote the construction of new highways, as well as their proper maintenance. As a result of the club's activities in opening up this territory it is expected that thousands of Northern and Western tourists will visit the South in the near future. Tours to and through the South are expected to be a feature of the convention of the American Association for Highway Improvement, which is to meet at Richmond, Va., November 20-24.

## For Road Engineering.

Mr. John C. Koch has been added to the staff of the school of civil engineering at the University of Georgia, with special duties in road extension work and in enlarged courses of instruction in road engineering and highway bridges. Prof. C. M. Strahan, at the head of the school, writes to the MANUFACTURERS RECORD: "This enlargement has met the approval of the people of the State and of the public press, as shown by strong editorials and by calls for field services at many points in the State."

## Maryland Roads.

A statement prepared by the Automobile Club of Maryland shows that thus far 275 miles of State roads have been completed, and 75 miles are now under construction. In addition, there are about 178 miles of State-aided roads, either completed or under construction, which form a part of the State road system. About 200 miles of turnpike have been bought by the State.

The capital employed in the manufacture of gas for illuminating and heating increased between 1904 and 1909 from \$725,035,000 to \$915,537,000, or 25 per cent., according to the census; the cost of materials from \$37,180,000 to \$52,428,000, or 41 per cent.; salaries and wages from \$25,522,000 to \$33,316,000, or 31 per cent., and the value of the products from \$125,145,000 to \$166,814,000, or 33 per cent.



## RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### MEMPHIS—NEW ORLEANS.

#### Missouri Pacific Reconstructing Low Grade Route and Making Cut-Off.

Construction is proceeding rapidly according to a report from Memphis, with the rebuilding of the Memphis, Helena & Louisiana division of the Missouri Pacific system, which is to be used jointly with the Frisco for improved service between St. Louis, Memphis and New Orleans. This road was built several years ago, with the ultimate object of making it a through line, and soon afterwards the Frisco proposed to parallel it with another railway. Construction of the latter was not undertaken, however, and several months ago an agreement was reached between the Frisco and the Missouri Pacific to use the line between them, each contributing to the cost of maintenance. Immediately after this arrangement was made reconstruction was begun and a contract was let for the long-contemplated Marianna-Memphis cut-off, about 45 miles long from Marianna, Ark., to Bridge Junction, Ark., several miles west of Memphis. This is expected to be completed in two or three months.

Meanwhile the improvement of the existing railroad south of Marianna is proceeding with rapidity. Between McGehee, Ark., and Ferriday, La., it is said to be practically complete now, and the work north of McGehee should be done in two or three weeks. The route lies through lowlands, much of which is subject to flooding and overflow by backwater from the rivers in the spring time. There are many trestles across low places, and these are, in many instances, being filled in so that embankments now will take their places. Light rails are being replaced with rail weighing 75 pounds per yard, and in other ways the road is being shaped up for heavy traffic. Much of the material used for fills had to be obtained from points remote from the trestling, which increased expense, but did not halt the work.

The Memphis, Helena & Louisiana Railway was brought about several years ago by constructing a large link to connect existing roads of the Iron Mountain division of the Missouri Pacific. This is between Latour and McGehee, Ark., 82½ miles, but another was proposed from Eudora, Ark., to Gilbert, La., 90 miles. This, however, was never finished, only 37½ miles being built from Eudora to Calvit, La., where it now terminates, but the company has a parallel road running from Eudora down through Lake Providence, Tallulah, St. Joseph and other Louisiana points to a connection with the Texas Pacific Railway (another Gould road), over which entrance is obtained to New Orleans.

### BEAUMONT TO WACO.

#### Two Lumber Roads Will Be Merged, But Extensions by Other Companies Are Expected.

Plans for a railroad from Beaumont to Waco, Tex., are rapidly taking form, according to a report from the first-named city. The Beaumont, Waco & Northern Railway Co. has been organized, and application will be made for a charter. J. G. Reaves of Beaumont is said to be the principal promoter of the enterprise, which proposes to make the railroads of the Keith Lumber Co. and the Miller-Vidor Lumber Co. part of the route. These are standard-gauge roads, the former being 10 miles long, with 22 miles additional under construction, and the latter are 64

miles in length. They have about 15 locomotives and 250 cars between them, most of the equipment, however, belonging to the Peach River lines, of which C. S. Vidor is president. These lines include the Peach River & Gulf, Galveston, Beaumont & Northeastern and the Riverside & Gulf railroads. The other road, of which B. R. Norvell is president and J. F. Keith vice-president, is that of the Beaumont-Saratoga Transportation Co.

The first work to be done will be the construction of a 22-mile connection between the two lumber roads, the Peach River line, with which the direct connection will be made, being the Riverside & Gulf. This work, including the reconstruction of the lumber roads, according to an estimate credited to Mr. Reaves, will cost about \$100,000, which is to be provided by sale of securities. The lumber roads are said to be carrying a profitable tonnage, and success is therefore claimed for the enterprise from the beginning. Moreover, it is asserted that the connection with the Southern Pacific lines at Voth, near Beaumont, will increase the amount of freight to be hauled from the Peach River lines.

It is further expected that the Beaumont & Great Northern Railroad will extend 25 miles from Livingston down to Milvid, on the Santa Fe, that being the northern terminus of the Riverside & Gulf. These two connections will establish a through line from Beaumont via Voth, Milvid and Livingston to Trinity, Tex., about 115 miles, thus covering about half of the distance between Beaumont and Waco.

As for the route through to Waco, it is figured that the Missouri, Kansas & Texas Railway will extend from the terminus of its Trinity & Colmesneil division at Trinity west to Waco, about 110 miles, thus connecting with the Texas Central, which it recently acquired, and which is extending westward into the plains country. There is also the possibility that the Beaumont & Great Northern, which is also a lumber road, will extend toward Waco. It already has a line of 15 miles running in that direction as far as Weldon, Tex. Wm. Carlisle of Atchison, Kans., is president of this road.

### CHATTANOOGA—ATLANTA.

#### Charter Asked for an Interurban Railway via Chickamauga Park and Rome.

Application has been made to charter the Chattanooga, Rome & Atlanta Railway Co. that has been organized at Chattanooga, Tenn., to build an interurban railway from Chattanooga to Fort Oglethorpe, Rome and other Georgia points to Atlanta, about 135 miles.

The incorporators of this enterprise are John H. Hill, Charles Reif, Michael O'Grady, John O. Hibbets and Samuel W. Divine, all of Chattanooga. A charter will also have to be obtained in Georgia, the capitalization of the latter being \$2,000,000, although the Tennessee charter is for \$100,000 on account of the small proportion of mileage in the State.

The new company will have the franchise through Chickamauga Park granted several years ago to Mr. Divine, and two distinct lines are to be run to Atlanta. One of these will go through that park to Fort Oglethorpe. The other will run through Highland Park and also Chickamauga Park into Georgia.

It is alleged that Eastern capital is represented by Mr. Hill.

### New Equipment, Rails, Etc.

President Finley of the Southern Railway announces that contracts have been let for 1700 all-steel 50-ton double drop-

bottom gondola coal cars, 500 steel underframe 30-ton ventilated box cars and 250 all-steel 50-ton flat cars. This is in addition to seven Mikado locomotives, 600 all-steel coal cars and 65 steel underframe box cars recently bought for the Virginia & Southwestern Railway of the system. The Southern is also reported receiving 35 Mikado locomotives for the Knoxville division. The box cars for the Virginia & Southwestern will be built by the Lenoir Car Works, Lenoir City, Tenn., and the 600 coal cars by the Pressed Steel Car Co., Pittsburgh.

The Louisville & Nashville Railroad is reported building 13 consolidation locomotives at its own shops, Louisville.

The Louisville & Nashville has ordered for next year's delivery 50,000 tons of rails from the Tennessee Coal, Iron & Railroad Co., and they will be rolled at the Ensley (Ala.) mill.

The Pennsylvania Railroad is negotiating for a large amount of rails for next year.

The Illinois Central Railroad has ordered 40 Mikado-type engines from the Baldwin Locomotive Works, Philadelphia, and 10 Pacific-type from the American Locomotive Co., New York.

The Norfolk & Western Railway has placed its rail order for 25,000 tons. Most of this went to the Carnegie and other mills of the United States Steel Corporation, but 6500 tons will be rolled at the mill of the Maryland Steel Co., Sparrows Point.

The Texas & Pacific Railway ordered 100 coal cars from the Pressed Steel Car Co.

The Norfolk Southern Railroad is reported getting prices on 500 steel underframe 60-ton ventilated box cars.

The Brinson Railway is receiving some new passenger cars.

The Illinois Central Railroad is about to purchase 30 caboose cars.

The St. Louis & San Francisco Railroad has filed an equipment contract for the purchase of 32 locomotives, 500 steel underframe refrigerator cars, 12 steel mail cars, 2 steel baggage cars, 3 steel mail and passenger cars, 15 steel passenger cars, 10 steel chair cars, 5 steel dining cars, 1 steel coach dining car, 4 steel buffet coach cars. The locomotives will be built by the Baldwin Works and the cars by the American Car & Foundry Co. of St. Louis and the Pullman Company of Chicago. Deliveries are to be made within 12 to 24 months.

The Illinois Central is reported getting bids on 40 passenger cars, 10 postal cars, 9 baggage and smoking cars, 4 cafe cars, 4 dining cars, 4 parlor cars, 26 baggage cars and 10 chair cars.

The Public Belt Railroad of New Orleans has received two 60-ton locomotives from the Baldwin Works.

### A Holding Company for Railways.

The International & Great Northern Corporation has been chartered in Virginia, with offices at Buckhead, for the stated purpose of being a holding concern for railways and allied interests; capitalization \$5,500,000; officers, Frank S. J. Gould, president; George H. Taylor, vice-president, both of New York; Guy Phillips, secretary and treasurer, Yonkers, N. Y., the other directors being George J. Gould and A. H. Calef of New York, and Henry W. Anderson of Richmond, Va.

### Stone & Webster Work in Texas.

M. M. Phinney, vice-president of the Stone & Webster Engineering Corporation of Boston, is quoted in a report from Houston, Tex., as saying that three-quarters of a million dollars will be expended in 1912 for improvements on the Houston

Electric Co.'s properties, and perhaps more will be disbursed. He also said that there would be extensive improvements to the light and power plant in Beaumont, Tex., which was taken over November 3.

Mr. Phinney while at Houston is said to have inspected progress on the Galveston-Houston Electric Interurban Railway, which his company is building, and on which construction is practically complete, excepting on the causeway over Galveston Bay. That, however, will be done soon, and early use of the line is expected.

### A New Texas Interurban.

The Stone & Webster Engineering Corporation of Boston is making rapid progress toward completion of the new interurban railway between Dallas and Waxahachie, Tex. The grade for the entire 30 miles is expected to be finished by January 1, when most of the bridge work is also to be completed. Tracklaying will then begin, rail contracts having been let. The route is via Oak Cliff and Lancaster. A reinforced concrete viaduct 500 feet long will be built over the Santa Fe Railway and Cedar Creek, just outside of Dallas. It is estimated that the road will cost something over \$1,000,000. A late report says it will be extended beyond Waxahachie to Ennis, 13 miles.

### Railway Improvements at Beaumont.

The Beaumont (Tex.) Traction Co. has about completed the reconstruction of its double-track lines, having been engaged since July in relaying them on a concrete foundation. The estimate of cost (\$125,000) is said to have been already exceeded, and considerably more will be needed to do all that is desired. All the rails are new. This will give 12 miles of track in the city on concrete foundation, excepting the Park street line. On the single track all switches were lengthened to 600 feet.

J. W. Kerlin, Roanoke, Va., according to a local report, has invented a valve motion for locomotives, which is said to be of great advantage as compared with the old link motion that is most commonly used.

## LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

### Betts Naval Stores Co.

The Betts Naval Stores Co. of New Orleans has incorporated with a capital stock of \$300,000 to develop long-leaf pine lumber in Western Florida for the production of turpentine, rosin, etc. With reference to its plans the company advises the MANUFACTURERS RECORD that it has leased 65,000 acres of land, and expects to install a plant to cost about \$50,000. This will consist chiefly of turpentine cups, teams, shanties for employees and distillery. Officers of the company include W. R. Gillican of the Gillican-Vizard Company, New Orleans, president; Buckner Chipley, vice-president, and J. A. Taylor, secretary-treasurer.

The Ocoola Hoop & Heading Co. of Humboldt, Tenn., is installing equipment for manufacturing hoops, heading, etc. George H. Woolener of McKenzie, Tenn., is interested in the enterprise.

Discovery of large quantities of mussels in the lower reaches of the Chattahoochee River has led to the agitation of the possibility of establishing a button factory at Columbus, Ga.

## MINING

### Richmond's Economic Geology.

N. H. Darton, in a bulletin of the United States Geological Survey, treats in some detail of the geologic formations in the vicinity of Richmond, Va., which contain materials of considerable economic importance, notably high-grade granite and valuable brick clays, both of which are extensively used locally or shipped to other points. The city, with several railroad lines and at the head of tidewater on the James, is most favorably situated for the distribution of its products. Mr. Darton says that the massive granite, which comes to the surface over a large area in the western part of Richmond, is in greater part well suited for building stone of the highest grade, and the supply is inexhaustible. It has been quarried extensively for many years, is bluish gray to light gray in color, remarkably uniform in composition and texture, and free from minerals which cause staining or decomposition. One of the most notable structures in which this granite has been used is the State, War and Navy Department Building at Washington. The rock is so massive that blocks of the largest sizes can be worked, and large bodies of it are so free from irregularities in texture or color that dimension stone which will match perfectly may be obtained in any quantity desired. There are 23 large granite quarries in the neighborhood of Richmond on both sides of the James River, and one is on Belle Island in the river.

In the Richmond region are extensive deposits of loamy clays varying in depth from 6 to 18 feet, and many brickyards use it for local demand. The clay is more or less mottled, gritty, yellow or reddish, some of it sandy and much of it containing streaks of pebbles and large boulders. The clays are somewhat too silicious for any other use than brick-making, although if purer clays are mixed in drain tile and hollow brick could probably be made from them.

In the regions are deposits of sand which is used locally to a considerable extent for molding; some diatom deposits, irregular in form and not of as high grade as at some other localities in Virginia; yellow ochre of fine quality, and an abundant supply of crushed granite, gravel and coarse river sand for concrete.

### The Fayette (Ala.) Gas Field.

Through the co-operation of the Alabama Geological Survey and the United States Geological Survey, the former has published a bulletin containing the reconnaissance report by M. J. Munn of the latter survey on the Fayette gas field, in the valley of the Sitsey River, in Fayette county, Alabama, where the search for coal in 1900 led to the discovery of natural gas. The developed part of the Fayette gas pool is about 2500 feet long and 1000 feet wide, and contained at the time of the making of the report last July five producing wells with initial capacities ranging from 250,000 to 4,500,000 cubic feet per day, with eight other wells drilled in search of gas within two miles of this pool, and six other holes drilled reporting neither gas nor oil in paying quantities. The conclusions of the report are that the Fayette gas pool does not appear to be fully developed, though it is very probably not a large pool; that the presence of this gas pool cannot be taken as a sure sign that an accumulation of oil is somewhere near it; that it is very probable the other and larger pools of gas and oil exist at places in the Warrior coal field, and that it seems probable that the northern part

of Fayette county, the western part of Walker county, the eastern part of Lamar county, at least the southern portion of Marion county and the western part of Winston county contain small areas in which all of the conditions necessary to the occurrence of oil and gas are present.

### West Virginia Geological Survey.

There has just been issued by the West Virginia Geological Survey, Morgantown, W. Va., an important volume which those interested in oil and gas have been eagerly expecting for several months. This is a "Detailed County Report on Wirt, Roane and Calhoun Counties," of 573 pages, with case of three maps—topographic, geologic and soil. Besides the detailed study and description of all the rocks, minerals, soils, streams, industries, etc., found within the area, the geologic map gives also the true location of all the oil and gas pools developed up to July 1, 1911, and shows by structural contours the several anticlinal and synclinal arches, including the southern extension of the famous Burning Springs or Volcano anticlinal. Price, with case of maps, postage paid by the Survey, \$2. Extra copies of geologic or topographic map, 50 cents each. Send remittances to the West Virginia Geological Survey, Morgantown, W. Va., Lock Box No. 448.

### Buys 1000 Acres Coal Land.

Frank Nelson, Jr., of Birmingham, has purchased the holdings in Walker county, Alabama, of the Red Star and Eldorado Coal companies, consisting of about 1000 acres of coal land, mine, tipple, houses, mining equipment, etc. The land purchased was made for the Bryan Coal Co., of which Mr. Nelson is president. He is quoted as saying that his company intends to improve the property, erect a washer at the mine and largely increase the output of coal.

## FERTILIZERS

### FERTILIZERS IN 1909.

#### Kind and Quantity of the Output of 550 Plants.

A preliminary statement of the general results of the thirteenth census of establishments engaged in the manufacture of fertilizers has been issued by Census Director Durand. It contains summaries which give the general figures for 1904 and 1909, and compare the principal products by kind and quantity, but do not include the fertilizers made in slaughtering and meat-packing establishments or in cotton-seed-oil mills.

The number of establishments increased 38 per cent.; the capital invested, 76 per cent.; the gross value of product, 84 per cent.; cost of materials, 77 per cent.; value added by manufacture, 99 per cent.; average number of wage-earners employed during the year, 29 per cent.; amount paid for wages, 45 per cent.; number of salaried officials and clerks, 105 per cent.; amount paid in salaries, 127 per cent.; miscellaneous expenses, 77 per cent.; primary horse-power, 35 per cent.

There were 550 manufacturing establishments in 1909 and 400 in 1904, an increase of 150, or 38 per cent.

The capital invested as reported in 1909 was \$121,537,000, a gain of \$52,514,000, or 76 per cent., over \$69,023,000 in 1904. The average capital per establishment was approximately \$221,000 in 1909 and \$173,000 in 1904.

The value of products was \$103,960,000 in 1909 and \$56,633,000 in 1904, an increase of \$47,327,000, or 84 per cent. The average per establishment was approxi-

mately \$189,000 in 1909 and \$142,000 in 1904.

The cost of materials used was \$69,522,000 in 1909, as against \$39,344,000 in 1904, an increase of \$30,178,000, or 77 per cent. In addition to the component materials which enter into the products of the establishment for the census year, there are included fuel, rent of power and heat, and mill supplies.

The quantity of all kinds of fertilizers manufactured in 1909 was 5,240,164 tons, a gain of 1,972,387 tons, or 60 per cent., over the 3,267,777 tons made in 1904. At both censuses the largest part of this consisted of complete fertilizers, of which 2,717,797 tons were produced in 1909 and 1,329,149 in 1904, a gain of 104 per cent. The proportion of the total in 1909 was 52 per cent.; in 1904, 41 per cent.

Superphosphates numbered 1,201,354 tons in 1909 and 766,338 in 1904, an increase of 57 per cent. Concentrated phosphate was not reported separately in 1904; the production in 1909 was 313,888 tons.

In 1909, 292 establishments engaged primarily in the manufacture of other products, reported fertilizers as a by-product, making the aggregate production 5,616,335 tons. Complete fertilizers are thereby increased to 2,947,642 tons; ammoniated fertilizers to 3,207,777 tons; concentrated phosphate to 324,843 tons; superphosphates to 1,223,969, and other fertilizers to 599,104 tons.

Comparative summaries follow, giving the general statistics for the industry, and the quantity and kind of principal products, 1904 and 1909:

#### General Summary, 1909 and 1904.

	1909.	1904.	P. C. of Inc.
Establishments.....	550	400	38
Capital.....	\$121,537,000	\$69,023,000	76
Materials, cost.....	\$69,522,000	\$39,344,000	77
Salaries.....	\$4,406,000	\$1,941,000	127
Wages.....	\$7,477,000	\$5,142,000	45
Other expenses.....	\$8,097,000	\$4,920,000	77
Products, value.....	\$103,960,000	\$56,633,000	84
Officials and clerks.....	3,317	1,618	105
Wage-earners.....	18,310	14,291	29
Primary horse-power.....	64,711	48,069	35

#### Principal Products, 1909 and 1904.

	1909.	1904.	P. C. of Inc.
Fertilizers.....	5,240,164	3,267,777	60
Complete.....	2,717,797	1,329,149	104
Superphosphates from minerals, bones, etc.....	1,201,354	766,338	57
Ammoniated.....	472,757	775,987	139
Concentrated phosphate.....	313,888	(1)	..
Other.....	534,268	396,303	35

\*In addition, in 1909, 229,845 tons of complete fertilizers, 48,029 tons of ammoniated fertilizers, 10,955 tons of concentrated phosphates, 22,615 tons of superphosphates and 64,736 tons of other fertilizers were reported by establishments engaged primarily in the manufacture of other products.

†Decrease.

‡Not reported separately.

### Trotman Manufacturing Co.

The Trotman Manufacturing Co. of Churchland, Va., has incorporated with a capital stock of \$50,000 to manufacture and mix fertilizers. Its officers are T. E. Trotman, president; P. E. Trotman, vice-president, and H. L. Trotman, treasurer, all of Churchland, and E. J. Jenkins, Dover, Del., secretary.

### To Build Motor Cars in Nashville.

[Special Dispatch to Manufacturers Record.] Nashville, Tenn., November 7.

We have purchased entire plant of carbon and oil company immediately adjoining present plant, more than doubling floor space. Will double equipment in 60 days of both machine shop and woodworking machinery, and erect new office building, red brick and stone, two stories, about 60x100 feet. The new equipment is to cost approximately \$225,000. W. H. Collier is engineer in charge. Our production for next year will be 3500 cars.

MARATHON MOTOR WORKS.

## TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

### Brevard Cotton Mills.

The Brevard Cotton Mills of Brevard, N. C., has been incorporated with a capital stock of \$100,000 by W. C. Cleveland and J. Hudson Williams of Greenville, S. C., and Welch Galloway of Brevard. This company has purchased and will operate the plant of the Transylvania Cotton Mill Co., using electrical power for the present, but may install a steam-power plant later. C. M. Cooke, Jr., of Brevard, will be in charge of the mill, which is equipped with 4000 ring spindles, 2000 twister spindles, 10 carding machines and accompanying equipment for the production of cotton yarns.

### Star Cotton Mill.

The Star Cotton Mill of Forsyth, Ga., which was reported last week as to incorporate with a capital stock of \$30,000 to take over and operate the plant of the Newton-Harp Manufacturing Co., has purchased and will install new spinning equipment to cost about \$12,000 and a steam plant to cost about \$3000. This company has a brick structure, 210x70 feet, equipped with 3240 spindles and accompanying machinery for the production of cotton yarns. The plant will have a daily capacity of 3100 pounds of yarn, and is expected to be ready to operate about January 1.

### Stehli & Co.'s Addition.

Stehli & Co., 84 and 86 Greene street, New York, who were reported last week as to erect an additional structure, 124x144 feet, for the weaving department of their High Point (N. C.) plant, advise the MANUFACTURERS RECORD that they have already completed arrangements for the erection and equipment of the building, which will include, it is reported, 100 looms. This company operates plants at Lancaster, Pa.; Paterson, N. J., and High Point, for the production of dress, tie and lining silks.

### The Cotton Movement.

In his report for November 10 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 71 days of the present season was 5,248,654 bales, an increase over the same period last year of 822,012 bales. The exports were 2,761,222 bales, an increase of 494,311 bales. The takings were, by Northern spinners, 514,838 bales, a decrease of 99,110 bales; by Southern spinners, 545,932 bales, an increase of 29,550 bales.

### Dwight Manufacturing Co.

The Dwight Manufacturing Co. of Alabama City, Ala., which was reported last week as installing 100 Draper looms, advises the MANUFACTURERS RECORD that it is not planning any additions to its plant, but, in keeping with its policy to keep its plant in first-class condition, is installing 800 Draper looms to take the place of the same number of common looms. This company operates 60,000 ring spindles, 2000 looms and accompanying equipment on the production of sheeting and drills.

### Cotton Cloth Manufacturers.

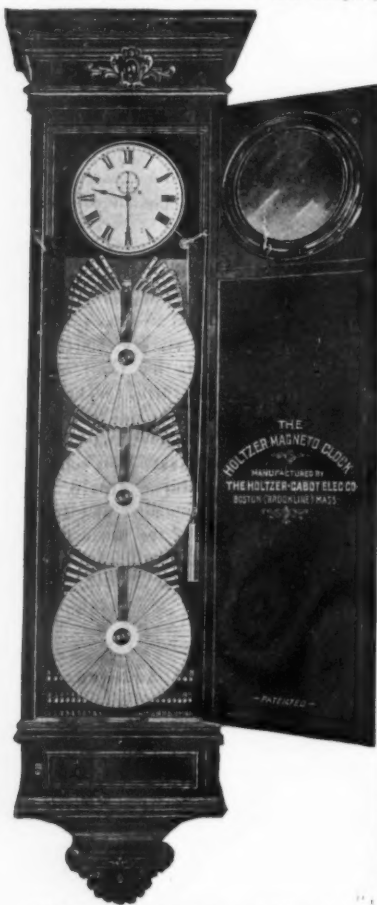
Radium Screen Co., St. Louis, Mo., writes to the MANUFACTURERS RECORD: "We are desirous of obtaining the names and addresses of concerns manufacturing cotton cloth of a width of from 120 inches to 150 inches."



## MECHANICAL

### The Holtzer Magneto Watchman's Clock.

The extensive use in industrial plants of recording systems to indicate the presence of watchmen at the proper place and time requires economical and reliable apparatus. A system which has been largely used is supplied by the Holtzer-Cabot Electric Co. The plant of this company



HOLTZER MAGNETO WATCHMAN'S CLOCK.

is at Brookline, Mass., and its Western branch is at 6161 S. State street, Chicago. This system is composed of the Holtzer Magneto Clock, magneto stations which are similar to telephone call stations and the magneto clock dial sheet. These are connected up by wiring from the various stations in the plant to the centrally located clock, which contains the dial sheet.

The Holtzer Magneto Clock shown in the accompanying illustration is approved by the National Board of Fire Insurance Underwriters. Its record is an ineffaceable puncture through a paper dial in the clock,



WATCHMAN'S STATION BOX.

the mechanism being operated by the current from magneto hand generators similar to those used in telephone service, as shown in the smaller illustration. These magneto stations are arranged at selected points in the plant to be covered by the watchman. The whole mechanism is finished similar to those of high-class electrical instruments. All brass parts are polished and lacquered, and the armatures and iron parts are copper-plated to prevent rusting. The magnets are wound with silk-covered wire. The case is made of quarter-sawed oak, finely finished, the clocks throughout are of high grade of workmanship, and no batteries are used in

connection with the system. The clock shown in the illustration is in a special case with three dials. A much smaller equipment consists of style "E" clock with plain detector, in which there is no office clock dial. This latter equipment is standard for use where only one watchman is employed at a time. The special clocks with several dials are made to suit conditions where more than one watchman must make the records during the same periods. All working parts of the interior mechanism are mounted on a heavy metal plate, making the whole mechanism substantial and rigid and keeping the adjustment permanent. The clock movement is protected from injury by a polished brass plate. A separate electro magnet is used in the clock for each station. The punch points of the mechanism are mounted independently of the lever arms, each point being enclosed in a small brass tube containing a spiral spring, which draws the needle back after it has pierced the dial. This form of construction permits the use of a short needle that is not liable to become bent or thrown out of alignment, or to stick in such a manner as to hold or tear the dial sheet. The lever arms are so pivoted that they move some distance before striking the needles, and are thus able to give a quick and powerful blow.

In the Holtzer style "E" magneto clock the operating mechanism is mounted in the closed case, with the necessary terminals, to which the wires from the magneto stations are brought. No clock dial is shown in this style. The door is hinged and provided with a Yale lock, so that it may be easily opened and the mechanism examined, dial sheets placed or removed.

Four different styles of cases for magneto stations are made. The one shown in the illustration is the new style metal case weatherproof magneto case, with cast-metal back and sheet-metal cover. This prevents water from getting into the interior of the case. The back is recessed and grooved for the wires, and the terminals are inside. A wood-box pattern is also made, which is suited to many interior installations where a weatherproof case is not required. Another style is the flush pattern, in which the box is either aluminum-coated, cast iron or zinc, with cover plates of iron coppered and oxidized or of polished brass or bronze. A fourth style is an iron box waterproof pattern, for stations exposed to weather, acid fumes, etc. This iron box is finished in aluminum and heavily lacquered. A metal flap covers the crank opening when the crank is removed, preventing the entrance of dust and moisture.

Other styles of this magneto clock are made in different sizes, with a wide range of prices from which to choose the style and size best adapted to the conditions to be covered. Full information will be sent on request to the manufacturer.

### The Drying of Iron Ore.

A recent test made with a Ruggles dryer at the Pequest Company's iron-ore mine No. 3, Buttsville, N. J., gave an efficiency of 89.05 per cent. The dryer was installed in the open, and was driven by a vertical steam engine, which operated both the dryer and the fan. By speeding up the fan, which was designed to run at low speed, the capacity of the dryer has been increased at this plant in almost direct proportion to the increased speed. It is reported that the installation of this dryer has proved to be such a profitable investment that the increase in price obtained for the ore will soon pay for the drying installation.

This is a simple method of increasing the value of wet iron ore, and is extensively used, as it also puts the ore in better condition for both shipment and for charging

into the blast furnace. The usual method of drying consists of putting the ore through a double-shelled dryer. The material enters the space between the shells at the feed end, and, on account of the revolution of the dryer, together with its inclination, the material is carried through to the discharge end, meeting on the way the hot gases which have passed through the inner cylinder.

Accurate observations during the ore-drying test at the mine referred to showed the percentage of moisture in the ore as taken from the mine to be about 22 per cent., and when discharged from the dryer about 8 per cent. Five to seven tons of material were fed to the dryer per hour. These dryers are manufactured by the Ruggles-Coles Engineering Co., 50 Church street, New York.

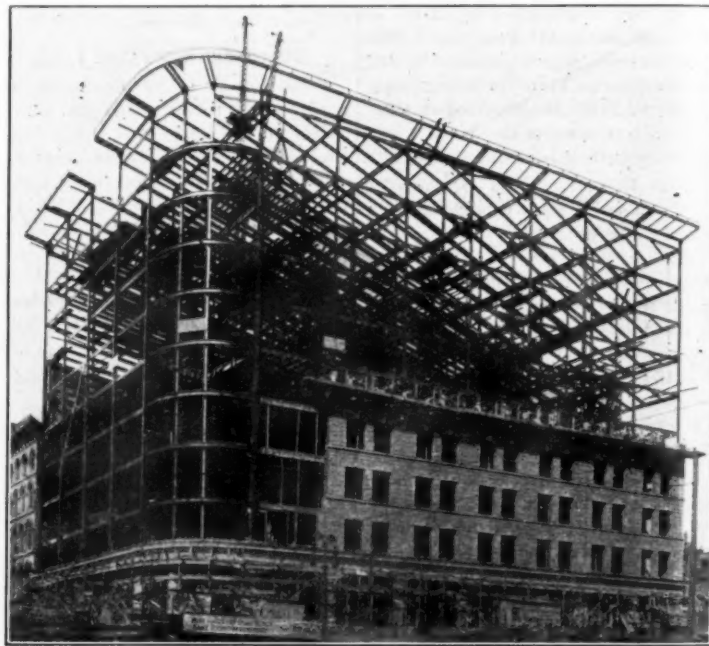
### Dietrich Bros.' Steel and Iron Fabricating Plant.

Prominently noted in connection with the rapidly-rising structural work of the Baltimore Bargain House, Baltimore, is the name of Dietrich Bros., which appears in large white letters on the larger girders of the framework of the building.

The accompanying illustration shows the structural frame as completed by Diet-

rich Bros. material in loading and unloading from cars and trucks is expeditiously done by means of traveling electric cranes, both in the yard and inside the buildings. The inside electric cranes were furnished by Maris Bros., Philadelphia, and the large 57-foot span, 15-ton electric cranes for loading and unloading cars were furnished by the Pawling & Harnischfeger Co. of Milwaukee. This system of traveling cranes, comprising five in all, also distributes and handles the material as it may be required throughout the plant. About 300 men are now employed in all the departments of the plant.

The structural steel for the Maryland Casualty Co.'s new building, including its big tower, is being fabricated and supplied as required by this concern. The territory to which it ships fabricated steel and iron from Baltimore includes, besides Maryland and the District of Columbia, the States of Virginia, West Virginia, the Carolinas, Georgia, Florida and Alabama. Among the materials furnished in that territory are the reinforcing and the structural steel for part of the plant of the Westervelt Cotton Mills, Greenville, S. C.; the structural steel for the Greers Manufacturing Co.'s buildings, Greens, S. C.; structural steel for the building and for overhead



BALTIMORE BARGAIN HOUSE, SHOWING DIETRICH BROS.' STRUCTURAL IRON WORK.

rich Bros., North and Pleasant streets, Baltimore. This building, which is 12 stories high, covers about one-half of an entire block. The walls, which will be rapidly filled in, as the frame is now completed, will be composed of Indiana limestone for one story, while the upper stories will be of tapestry gray brick, trimmed with limestone. The new building will add 240,000 square feet to the available space at present used by the Baltimore Bargain House.

Dietrich Bros. have furnished all the structural steel for the building. This firm was established in 1901, and its plant has been developed and enlarged with the addition of new buildings, improved machinery for handling and fabricating all kinds of steel and iron building material, and with increased number of employees, until it is now one of the important steel and iron fabricating establishments of the country. Its central location in Baltimore places it advantageously for handling local work, and its shipping facilities by both rail and water are excellent. Sidings of the Pennsylvania and the Western Maryland railroads extend to the shipping platform. The handling of

craneway for the West Point Manufacturing Co.'s plant at Langsdale, Ala.; the material for the large department store of Miller, Rhodes & Swartz, Norfolk; the steel trusses and structural steel for the Simpsonville Cotton Mills, Simpsonville, S. C., and many others, including buildings in Asheville, N. C.; Wilmington, N. C.; Jacksonville, Fla.; Roanoke, Va., etc. Large stocks are kept on hand, and several hundred tons of reinforcing bars, rounds, twisted and deformed bars up to 60 feet in length are always available for shipment.

### Iron Hardware and Supplies.

Capietti Vittorio, No. 14 Viale Venezia, Milan, Italy, writes to the MANUFACTURERS RECORD:

"As soon as I have mastered the contents of your valuable periodical I shall take the liberty of writing you in detail in regard to the products which are of greatest interest to me. In any case, however, I want to say that the articles which I can use and in regard to which I would like to correspond are small (iron) hardware, locksmith supplies, screws, bolts and articles made of iron in general."

# Construction Department

## TO OUR READERS!

In order to follow up properly the Construction Department items, please bear in mind the following statements:

### EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "it is reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

### HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be shown on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur.

### WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year. On all advertising contracts in the Manufacturers Record for three months or longer a subscription to the Daily Bulletin is included for the contract period.

### BRIDGES, CULVERTS, VIADUCTS

Ala., Mobile.—Mobile county will construct steel bridge over Dog River on Moffat Rd.; bids received until November 20. Address Board of Revenue and Road Commissioners, Mobile. (See "Machinery Wanted.")

Fla., Orlando.—Orange County Commissioners, Orlando, and Volusia County Commissioners, Deland, Fla., contemplate construction of bridge over St. Johns River near Sanford.

Ga., Columbus.—City will vote on \$50,000 bond issue to provide funds for completing concrete bridge across Chattahoochee River, now in course of construction; original bond issue amounted to \$100,000; W. C. Campbell, City Engineer.

Ky., Paducah.—Jefferson Davis Highway Association will construct concrete culverts and bridges in connection with construction of Jefferson Davis Memorial Highway. (See "Roads and Streets.")

La., Charenton.—Iberia, St. Mary & Eastern Railroad Co., I. W. Troxel, chief engineer, New Iberia, La., awarded contract to Wisconsin Bridge Co., Milwaukee, Wis., to construct 150-foot draw span and trestle approach across Bayou Teche; cost \$25,000. (Recently noted.)

La., New Orleans.—City will erect Strauss trunnion bascule bridge over Carondelet Walk Canal on axis of Hagan Ave.; bids received at office of Chas. R. Kennedy, Comptroller, until 11 A. M. December 28. (Recently noted. See "Machinery Wanted.")

Mo., Carthage.—Jasper County Commis-

sioners instructed William Kohlman, County Engineer, to prepare specifications and estimates for construction of three bridges—across North Fork near Purcell, over Turkey Creek near Joplin and over Jones Creek on Joplin-Sarcosie Rd.

Miss., Brookhaven.—Lincoln county awarded contract to F. H. Alsbury & Co., New Orleans, La., at \$2850 to construct bridge across Bogue Chitto River; steel construction with concrete floor.

Miss., Vicksburg.—Board of Supervisors and Board of Aldermen awarded contract at \$15,000 to Vicksburg Boiler and Iron Works, Levee and Depot Sts., Vicksburg, to build recently-noted steel and concrete arch over Glass Bayou. (See "Machinery Wanted.")

Mo., Kansas City.—Kansas City Terminal Co. awarded contract to Bernard Corrigan of Kansas City at about \$350,000 to construct Burlington connection, including bridge abutment and retaining walls; connection extends from St. Louis Ave. to 24th St.; work includes 200,000 cubic yards of earth excavation. (Recently mentioned.)

N. C., Castle Hayne.—Joint Committee County Commissioners of New Hanover and Pender counties will receive bids until December 6 for construction of steel bridge over Northeast River at Castle Hayne; bridge 400 feet long, 18 feet wide. Address R. McEachern, chairman, Wilmington, N. C. (See "Machinery Wanted.")

N. C., Whiting.—Southern Railway, B. Herman, chief engineer, 1300 Pennsylvania Ave. N. W., Washington, D. C., awarded contract to R. L. Galtner, Manassas, Va., to construct bridge over Tennessee River; steel construction; concrete piers.

S. C., Yorkville.—York County Commissioners awarded contract to Roanoke Bridge Co., Roanoke, Va., to construct two iron bridges, one over Fishing Creek, 50 feet long, and one over Love's Branch, 25 feet long.

Tex., Abilene.—Taylor county will construct steel and concrete bridge with 18-foot passageway over Cedar Creek at 10th St. crossing. Address County Commissioners.

Tex., Brazoria.—Brazoria County Commissioners awarded contract to Midland Bridge Co., Kansas City, Mo., to construct two steel bridges over Brazos River, one at Brazoria and other at Columbia; F. S. Rice, engineer, Sweeney, Tex.; J. W. Munson, County Judge, Angleton, Tex. (Call for bids lately noted.)

Va., Jonesville.—Lee County Supervisors awarded contract to Roanoke Bridge Co., Roanoke, Va., to construct seven bridges in Lee county; steel trusses on masonry; cost \$129,000. (Recently noted.)

Va., Jonesville.—Lee county awarded contract to Roanoke Bridge Co., Roanoke, Va., to construct seven bridges, and to Virginia Bridge & Iron Co., Roanoke, Va., to construct one structure.

Va., Petersburg.—City contemplates construction of bridge over Appomattox River to replace Bishop's bridge and concrete bridge to replace temporary trestle now connecting city with Pochohantas; former is to be 27 feet wide and 250 feet long and cost about \$31,000; latter is to consist of 10 spans of 16 feet each and cost about \$5000. Address The Mayor.

Va., Richmond.—Henrico county awarded contract to Roanoke Bridge Co., Roanoke, Va., to construct concrete bridge; cost \$2500. (Recently noted.)

### CANNING AND PACKING PLANTS

Ark., Little Rock.—C. C. Pusey, Havre de Grace, Md., and associates contemplate, it is reported, establishment of tomato cannery.

Fla., Starke.—Consolidated Canning Co., Fred S. Gray, general manager, Jacksonville, Fla., purchased Starke Canning Co.'s plant and will operate as branch of plant to be established in Jacksonville.

Fla., Jacksonville.—Consolidated Canning Co., Fred S. Gray, general manager, Jacksonville, Fla., is arranging for establishment of proposed cannery; purchased Starke Canning Co.'s plant at Starke, Fla., and will operate as branch of Jacksonville plant.

Tenn., Memphis.—Branch Fish & Oyster Co. incorporated with \$3000 capital stock by D. W. Branch, D. McCrary, V. P. Lowry and others.

Tex., Corpus Christi.—Fish.—Gulf Fish Co. organized by W. M. Griffiths, Lincoln, Neb., and associates to pack fish; will construct plant.

W. Va., Keyser.—Keyser Canning Co. incorporated to establish cannery; C. W. Slevier, president; A. W. Park, treasurer; B. E. Dawson, manager.

### CLAYWORKING PLANTS

Ga., Rockmart.—Bricks.—John H. McKenzie, Augusta, Ga., and associates purchased Rockmart brick plant and will, it is reported, improve at cost of \$150,000.

Tex., Athens.—Pottery.—Athens Pottery Co. incorporated with \$100,000 capital stock by P. E. Miller, J. E. Miller and J. C. Hogue.

### COAL MINES AND COKE OVENS

Ala., Birmingham.—Bryan Coal Corporation, Frank Nelson, Jr., president, purchased 1000 acres of coal land in Walker county contiguous to 8000 acres in Walker and Jefferson counties previously acquired; present purchase comprises holdings of Red Star and Eldorado coal companies and includes coal tipples, mine equipment, commissaries, etc.; planned to make various improvements, erect coal washer and increase capacity of mines. (Company previously reported incorporated with maximum capital stock of \$1,000,000 to develop coal properties in Jefferson and Walker counties, Alabama.)

Ky., Lexington.—Cambria Coal & Lumber Co. organized with Charles S. Ling president, B. F. Price vice-president, both of Johnstown, Pa.; J. J. Dougherty, Connellsville, Ky., secretary-treasurer. This company, together with Kentucky Land & Improvement Co., Price Coal & Lumber Co. and Knott County Coal & Lumber Co. (as lately stated), plans no immediate development. (Recently reported incorporated with \$500,000 capital stock.)

Ky., Pike County.—Hayden, Stone & Co., Boston, Mass., purchased about 30,000 acres of coal lands; will organize Pond Creek Coal Co., with Albert F. Holden, 55 Congress St., Boston, president, and T. B. Davis, Jr., 1 Broadway, New York, vice-president and general manager; company will have capitalization of 200,000 shares with par value of \$10, or \$2,000,000, of which 150,000 will be issued at present at \$15 per share, covering entire purchase, with provision for development expenses; development to begin at once.

Ky., Providence.—Jenkins Coal Co. incorporated with \$3500 capital stock by C. B. Jenkins, James T. Stiman and N. B. Hunt.

Ky., Wofford.—Keystone Coal Co. incorporated by George Baker, Bert Hand and Dave Meadows.

### COTTON COMPRESSES AND GINS

Ark., Newport.—Littleton Bros. Company will rebuild gin; ironclad building; cost \$2000; cost of machinery \$3000; daily capacity, 40 bales of cotton. (Recently reported burned.)

Ga., Harlem.—Harlem Oil & Fertilizer Co., J. J. Zachary, president, will rebuild six-stand gin and 1500-ton seedhouse. (Recently reported burned.)

Tex., Alvin.—Alvin Gin Co. (recently noted incorporated) will operate equipped plant.

Tex., Eldorado.—P. H. McCormick and associates will rebuild burned cotton gin.

### DRAINAGE AND IRRIGATION

Ark., Brinkley.—Drainage District Board, J. A. Sane, secretary, awarded contract to A. V. Wills & Son, Paragould, Ark., for excavation of 250,000 cubic yards of dirt from Piny drainage ditch in Monroe and Lee counties; 10,000 acres to be drained; John Wilbanks, Little Rock, Ark., engineer in charge. (Names of engineer and contractor recently incorrectly stated.)

Fla., Miami.—Everglade Land Sales Co., Henry G. Ralston, vice-president, Southern office, Miami, decided on previously-noted improvements to Royal Glade tract, comprising 10,000 acres; is considering opening up additional 50,000 acres not yet surveyed.

La., Barataria.—Oscar D. Weed of New York purchased, it is reported, 10,000 acres of wooded land on Bayou Rigolets in vicinity of Barataria; proposes to reclaim and market; E. J. Crusel, New Orleans, La., represents purchaser.

N. C., Concord.—Big Cold Water Drainage District organized to construct drainage system; length of district, eight miles. Address Cabarrus County Commissioners.

Tex., Bay City.—Dunbar drainage district

voted issuance of \$27,900 of bonds for construction of system to drain 14,000 acres. Address District Commissioners.

Tex., Cotulla.—Noah Allen, Brownsville, Tex., is promoting organizations on irrigation district to embrace about 50,000 acres; proposed to construct dam across Nueces River about seven miles from Cotulla, to be 75 to 100 feet high and probably 3000 feet long.

Tex., San Antonio.—Foster Crane, Boise, Idaho, has contract, it is reported, in connection with Roach & Stansell of Memphis, Tenn., to construct 12 sections of irrigation system for Medina Irrigation Co., 530 E. Houston St., San Antonio. (Recently mentioned.)

Tex., Vanderbilt.—Drainage District No. 1 voted \$76,000 bond issue; will drain 40,000 acres. Address Commissioners Drainage District No. 1.

### ELECTRIC PLANTS

Ala., Eufaula.—City Council has, it is reported, awarded contracts for construction of electric-light plant; cost \$25,229. Address The Mayor. (Previously reported.)

Ala., Ragland.—City granted franchise to Frank M. Morris and associates to operate electric-light and power plant.

Ala., Piedmont.—City awarded contract to J. B. McCrary Company, Atlanta, Ga., for construction of electric-light plant; P. W. Roberts, Mayor. (\$25,000 bond issue for this plant and for water-works extension recently noted.)

Ala., Tuscaloosa.—City Commissioners granted franchise to F. G. Blair and Henry B. Foster to build and operate electric-power plant, gas works and electric railway. (Previously mentioned.)

Ga., Royston.—James J. Roberts states contemplated electric lighting and power plant will use water-power; probably supply lighting to three towns. (Recently noted.)

Okla., Butler.—Kise & Mason purchased site on which to construct electric-light plant. (W. K. Kise previously reported to have secured 20-year electric franchise.)

Tex., Del Rio.—City Ice & Electric Co. incorporated by C. O. Foulks and others. (See "Ice and Cold-storage Plants.")

Tex., El Paso.—Isidore Newman & Son, New Orleans, La., recently noted as purchasing for reorganization Brush Electric Light & Power Co., state they acted as bankers only and are not yet at liberty to furnish information.

Va., Chatham.—B. F. W. Bryant purchased practically all required equipment for electric plant under construction. (Recently noted to receive franchise.)

### FERTILIZER FACTORIES

Ala., Dothan.—Home Guano Co. (recently noted incorporated) will equip plant to manufacture acid phosphate and guano; Arthur Pelzer, president; J. Ross Hanahan, vice-president; M. L. Hanahan, secretary and manager. (See "Machinery Wanted.")

Ga., Atlanta.—South Atlantic Guano Co. incorporated with \$3000 capital stock by J. W. Robinson, Irving Hawtin, Atlanta, and Thomas A. Ratliffe, Anderson, S. C.

Va., Churchland.—Trotman Manufacturing Co. incorporated with \$50,000 capital stock; T. E. Trotman, president; P. E. Trotman, vice-president; H. L. Trotman, treasurer; E. J. Jenkins, secretary, Dover, Del.

### FLOUR, FEED AND MEAL MILLS

Ga., Cordele.—E. T. Oliver of Raleigh, N. C., representing North Carolina capitalists, is promoting construction of flour and grit mill to have capacity of 200 barrels flour, 2000 bushels meal and 20,000 pounds feed-stuffs daily; company is to be organized with \$25,000 capital stock.

Miss., Hattiesburg.—Hattiesburg Compress Co., Frank L. Matthews, manager, will install corn mill, chop mill and feed mixer to be operated by electric motors.

### FOUNDRY AND MACHINE PLANTS

Ky., Louisville.—Structural Iron.—Balke & Co. contemplate erection of new plant; plans not determined.

Ky., Louisville.—Kentucky Gear & Machine Co. contemplates enlarging plant; plans not definite.



Mo., St. Louis—Furnaces.—Glenolden Furnace Co. incorporated with \$5000 capital stock by Charles Robert and Jennie Adams.

Tex., Fort Worth—Foundry.—Enterprise Iron Works reported to make additions to plant; erect building on 100-foot site adjoining present plant.

Va., Lowmoor.—Lowmoor Iron Co. of Virginia will rebuild machine and blacksmith shop recently reported burned; construction by company's force.

### GAS AND OIL DEVELOPMENTS

Ga., Ringgold.—Catoosa Oil Co. (recently reported incorporated with \$500,000 capital stock) will develop 500 acres of oil property in Catoosa county about one mile from Ringgold; Frank L. Malone, W. K. Miller and others are incorporators; office address, 312 Empire Bldg., Atlanta; correspondence relative to well drilling is desired. (See "Machinery Wanted.")

Ky., Shelbyville.—J. R. Robertson, Jacksonville, Ill., and E. L. Foster, Independence, Kans., will, it is reported, arrange for development of oil wells near Shelbyville.

Ky., Monticello.—Maryland Oil & Gas Co. incorporated with \$7000 capital stock by R. C. Carpenter, George W. Pyle and John C. Miller.

La., Shreveport.—Fort Worth-Caddo Oil Co. organized with W. D. Davis president, J. J. Lydon vice-president, and J. E. Wallace secretary-treasurer, all of Fort Worth, Tex.; capital stock, \$250,000; has under lease 400 acres in Caddo oil field near Shreveport and proposes to undertake development.

La., Vivian.—Atlantic Oil Co., 632 Gravier St., New Orleans, La., organized with P. P. Gluck president, H. J. Roberts vice-president, Raoul Sere treasurer, W. H. Murtagh secretary, William H. Oncken financial agent; capital stock, \$50,000. (Mr. Oncken and associates recently noted to have purchased 30 acres of land near Vivian for development.)

Miss., Rodney.—Crowley Mineral & Oil Co., Crowley, La., will develop oil properties near Rodney; engineer is preparing maps and blueprints.

Okla., Ardmore.—P. C. Dinges of Ardmore; W. A. Ledbetter of Oklahoma City, Okla.; O. J. McLane, Carthage, Mo., and H. W. Mueschke (all connected with Ardmore Gas Co.) purchased properties and gas franchise of Ardmore Heat & Light Co.; plan to construct extensions.

Okla., Tahlequah.—Tahlequah Gas & Power Co. incorporated with \$25,000 capital stock by W. B. Ludeman, A. T. Woods and David Carr.

Okla., Tulsa.—Old Hickory Oil Co. incorporated with \$30,000 capital stock by C. P. Chenault, M. A. Rensor, J. A. Endicott, E. P. Irvan and H. D. Irvan.

Okla., Vinita.—Kendall Oil Co. incorporated with \$5000 capital stock by J. H. Kendall, H. J. Swartz and J. W. Swartz.

Tex., Beaumont.—Moore Oil Co. incorporated with \$9000 capital stock by J. B. Moore, F. A. Moore and Charles M. Sarroll.

Tex., Houston.—Markham Oil Co. incorporated with \$10,000 capital stock by T. P. Lee, A. M. Donoghue and Robert A. John.

W. Va., Huntington.—United Oil Field Co. incorporated with \$1,000,000 capital stock by F. B. Enslow, A. B. Brode, J. M. McConch, C. W. Phellis and others.

W. Va., New Martinsville.—Spear Oil Co. purchased at \$41,500 and will develop oil and gas property in Calhoun county, West Virginia, formerly owned by Lowther-Kaufman Coal & Oil Co.; drill new wells, etc. (H. M. Spence, Parkersburg, W. Va., and others recently noted to have purchased property.)

### ICE AND COLD-STORAGE PLANTS

Ga., Atlanta.—A special dispatch to Manufacturers Record says: "Plate Ice Co. incorporated; \$300,000 capital stock; George M. McKenzie and others; general ice business; no plans formulated."

S. C., Anderson.—Blue Ridge Ice, Fuel & Beverage Co. incorporated with \$10,000 capital stock by D. C. Brown, J. E. Barton, R. J. Guin and others.

Tex., Del Rio.—City Ice & Electric Co. incorporated with \$40,000 capital stock by C. O. Foulks, W. H. Wolff and J. A. Farman.

Tex., Sherman.—Sherman Ice Co. awarded all contracts to erect reinforced concrete cold-storage warehouse; John Tulloch, 26 Linz Bldg., recently noted as architect.

### IRON AND STEEL PLANTS

Ala., Birmingham.—Iron Furnaces, etc.—Woodward Iron Co. incorporated with \$13,000,000 capital stock by Robert Jenison, Jr.,

R. H. Baugh and T. H. Benners, all of Birmingham, and E. E. McWhinney of Wilmington, Del.; recently purchased properties of Birmingham Coal & Iron Co., including two blast furnaces, 40,000 acres coal land and 2400 acres iron-ore property. (Full particulars heretofore reported.)

Okla., Tulsa.—Rolling Mill.—J. B. Kelvin of Gary, Ind., and Samuel E. Light of Lebanon, Pa., will, it is reported, establish steel rolling mill at Sand Springs to manufacture structural and railroad iron and steel and utilize scrap iron; output will range from 1250 to 1500 tons per month. (Charles Page recently reported as interested in promoting establishment of this plant.)

### LAND DEVELOPMENTS

Ala., Birmingham.—Shades Cliff Land Co., 2014 First Ave., contemplates increasing capital stock from \$150,000 to \$500,000; C. T. Brazelton, president.

Ala., Monroeville.—Owens Land Co. incorporated with \$100,000 capital stock by W. D. Owens, Jr., T. A. Jennings and J. F. Dusenbury.

Ark., Mena.—Mena Ginseng Co., I. M. Davis, president and manager, will develop 7½ acres of land on Middle Mountain for growing ginseng; capital stock \$1000; expenditure \$1000. (Recently noted.)

Fla., Barberville.—Dowling & Tarver, Jacksonville, Fla., purchased 6000 acres on Lake George in Volusia county and will develop; planned to clear property, install sawmill, lay tiling, develop townsite, construct dock facilities, erect hotel and clubhouse, etc.; George W. Turnbull of Jacksonville will have direct supervision of sales.

Fla., St. Petersburg.—George W. Stewart will develop 900 acres land; is having surveys made and proposes to divide property into five-acre tracts; will construct roads and streets.

Fla., Tampa.—R. P. Levi, Charleston, W. Va., purchased 35 acres and will develop for residential purposes; has divided property into lots; plans to construct waterworks, sewers, macadamized streets and sea wall.

Fla., West Tampa, Station Tampa.—John H. Drew Development Co. incorporated with \$30,000 capital stock; C. C. Whitaker, president; W. A. Carter, secretary; J. H. Drew, treasurer.

Ga., Barnesville.—City and Gordon Institute have plans by Knox T. Thomas, 518 Fourth National Bank Bldg., Atlanta, Ga., to develop 16 acres of land as park and athletic field; contract will be let at once for grading drives and walks; will expend \$5000 in grading and draining. See "Machinery Wanted."

Ga., Brunswick.—J. Keeley of Chicago Tribune, Chicago, Ill., purchased about 6000 acres land in Brunswick and Glynn counties; has no plans for present development.

Ga., Habersham County.—Soque River Orchards Co. incorporated with \$50,000 capital stock by Robert N. Hughes, M. B. Yates, W. H. Withers, 423 Kiser Bldg., Atlanta, Ga., and others; will develop 449 acres of land for apple growing; will plant at present 50 trees.

La., New Orleans.—John B. King, representing McCormick Bros. of New York and Salt Lake City and associates, will plant 25,000 Celeste fig trees on 200 acres, and citrus fruits, including oranges, grapefruit, etc., and truck products, such as asparagus, celery, etc., on balance of 640 acres recently noted purchased from New Orleans Lake Shore Land Co. for \$250,000; purchasers propose to conduct company farming and orcharding to demonstrate diversity of crops that can be grown on reclaimed wet prairie lands; also plan to establish cannery.

Md., Berlin.—Swan Creek Orchard Co. incorporated with \$100,000 capital stock by Orlando Harrison of Berlin, Nutter J. Wimbrow, Whaleyville, Md., and Archie H. Hardesty.

Md., Odenton.—Samuel Bealmer, 114-115 Law Bldg., purchased for Turner Estate 163¼ acres at Odenton and will develop; purchase price \$5570.40.

Md., Hancock.—Pittsburgh Orchard Co. incorporated with \$8000 capital stock by J. T. Bridges and Charles W. Myers of Hancock, F. Wilbur Bridges of Hagerstown, Md., and Frederick A. Rhodes of Pittsburgh, Pa.

Miss., Natchez.—Natchez District Development Co. incorporated with \$500,000 capital stock by W. D. Moulner, J. N. Carpenter and others. Mr. Moulner wires Manufacturers Record: "Will buy tracts of improved farm lands in Mississippi and Louisiana, subdivide into small farms averaging 40 acres, improve where necessary and colonize; demonstration farms will be operated."

Mo., St. Louis.—Haight Orchard Co., 519 Third National Bank Bldg., will develop 5000 acres of land in Howell county as apple and peach orchard, dividing into 10-acre tracts and multiples of 10; W. R. Haight, president; W. C. Connett, vice-president; F. J. Stuart, treasurer; John H. Curran, secretary. (Recently noted incorporated with \$100,000 capital stock.)

N. C., Charlotte.—The Stephens Company organized with George S. Stephens president, A. J. Draper vice-president, W. H. Wood treasurer; will expend \$500,000 for development of residential suburb consisting of 1100 acres of land; Brent S. Drane, engineer in charge. (Recently noted to make improvements to Myers Park property.)

N. C., Pineview.—J. A. Harps, Greenfield, O., purchased, it is reported, 6000 acres, and will develop for farming.

Okla., Eldorado.—Eldorado Irrigation Farming Co. incorporated with \$5500 capital stock by T. A. Lowery, Frank Schultz, C. A. Boyd and J. E. Broadenbomer.

S. C., McBee.—Southern Land Development Co. completed organization with N. B. Dial, president, Laurens, S. C.; Joseph T. Joynson, vice-president, Spartanburg, S. C., and E. P. Minter, secretary-treasurer, Laurens, S. C.; purchased 17,000 acres in and around town of McBee; propose to divide property into farms and colonies. (Recently noted incorporated with \$30,000 capital stock.)

Tenn., Dickson.—Rapid City Land Co. will develop property in Dickson and other counties; proposed to establish town at Pond Switch two miles from Dickson; streets to be 100 feet wide; boulevard one mile long. (Company was recently reported incorporated with \$75,000 capital stock by W. M. Shipman, Nashville, Tenn., and others.)

Tenn., Dyersburg.—Richardson Land & Supply Co. incorporated with \$25,000 capital stock by L. C. Fumbanks, R. Rawles, E. E. Rucker and others.

Tenn., Nashville.—Riverview Realty Co. incorporated with \$40,000 capital stock to develop property in North Nashville; P. L. Harned is president and general manager; J. B. Brown, secretary.

Tex., Amarillo.—Chamber of Commerce, Real Estate Exchange, and other organizations acquired 20 acres of land and will construct experimental irrigation system.

Tex., Beaumont.—City will vote December 20 on \$40,000 bond issue for park purposes. Address The Mayor. (Recently mentioned.)

Tex., Big Wells.—Big Wells Townsite Co. incorporated with \$50,000 capital stock by William McMurry and Lee Howell of Big Wells and Eli Howell of San Antonio, Tex.

Tex., Nacogdoches.—State purchased 82 acres on which to establish agricultural demonstration station, to be substation of State demonstration stations and under direction of Agricultural and Mechanical College; B. Youngblood, Austin, Tex., is director of State demonstration stations.

Tex., San Antonio.—McCarthy Bros., St. Paul, Minn., purchased 8900 acres from Theodore Plummer for \$175,000; purchasers propose to divide property into farms and colonies.

Va., Stuart.—Shelton Orchard Co. incorporated with \$50,000 capital stock by Henry E. Van Deman, 3639 13th St. N. W., Washington, D. C.; M. V. Stedman, Stuart, and others. Mr. Van Deman is president.

### LUMBER MANUFACTURING

Ark., McCrory.—H. A. Langton & Co. (recently noted to rebuild sawmill) will erect 40x120-foot \$1000 frame building; construction by company; install band mill machinery; produce wagon and plow woods.

Ga., Babcock.—Babcock Bros. Lumber Co., general offices, Pittsburg, Pa., recently noted to purchase 2000 acres pine timber land, will not increase capacity of plant; land purchased adjoins present holdings.

Ga., Gainesville.—Byrd-Matthews Investment Co., R. M. McCombs, president, St. Louis, Mo., advises Manufacturers Record that the company and allied interests will erect three proposed sawmills at or near terminus of its railroad; combined capacity 60,000,000 feet hardwood annually; now receiving estimates on sawmill machinery, engines, boilers, etc., for complete plants; has 150,000 acres hardwood timber; company is negotiating with paper, pulp and tannic acid and furniture industries, all to be located near mills. (Previously noted. See "Machinery Wanted.")

Ga., Savannah.—Perkins Lumber Co. reorganized with W. V. Davis, president, Savannah; W. C. Perkins, first vice-president, Hagan, Ga.; H. Roscoe Perkins, second vice-president, Hagan, Ga.; W. B. Stillwell, sec-

retary, Savannah; B. K. Willingham, treasurer, Hagan, Ga.

Ga., Valdosta.—Upchurch Lumber Co., Raeford, N. C., purchased 2600 acres of timber land near Valdosta, and will develop; purchase price about \$25,000.

Ga., Whigham.—Z. W. Belk (recently noted as purchasing timber land) states he has sold all timber interests to Macon capitalists, who are not ready to announce plans.

Ky., Lexington.—Cambria Coal & Lumber Co. elected Charles S. Lang, president; R. F. Price, vice-president, both of Johnstown, Pa.; J. J. Dougherty, Connellsville, Pa., secretary-treasurer. (See "Coal Mines and Coke Ovens.")

Miss., Jackson.—Eureka Manufacturing Co. incorporated with \$30,000 capital stock by W. Meeds, A. L. Sidebottom and J. W. Shoemaker.

Miss., Jefferson County.—Chess & Wymond Company, Louisville, Ky., purchased, it is reported, 8600 acres of hardwood timber land in Jefferson county.

N. C., Sevier (not a postoffice).—Southern States Lumber Co., Concord, N. C., purchased 800 acres of timber land near Sevier for \$10,000; will install sawmill; daily capacity, 15,000 feet; J. F. Lentz, president and manager. (Recently noted.)

Tenn., Dyersburg.—Tennamary Timber & Land Co. incorporated with \$15,000 capital stock by E. E. McDavid, L. E. Carne, G. D. Bush and others.

Tex., Beaumont.—Southland Lumber Co. incorporated with \$10,000 capital stock by Ben S. Woodhead, J. F. Keith and D. Woodhead.

Tex., Garwood.—McClanahan-Frnka Lumber Co. incorporated with \$20,000 capital stock by A. C. McClanahan, Ed. R. Frnka and F. J. Bouska.

Tex., Houston.—Brown-Bell Lumber Co. incorporated with \$30,000 capital stock by Jesse McMurry, J. A. Camp and J. B. Bell.

Tex., Sherman.—Lyon Gray Lumber Co. increased capital stock from \$50,000 to \$350,000.

W. Va., Charleston.—Charleston Lumber Co. incorporated with \$5000 capital stock by J. J. Finley and W. C. Flinger.

### METAL-WORKING PLANTS

Ala., New Decatur.—Cornices, etc.—Decatur Cornice & Roofing Co. will increase capacity of plant; buildings erected; foundry purchased; architectural castings and general contract work. (See "Machinery Wanted.")

Mo., Kansas City.—Steel Barrels.—Rukes Steel Barrel & Welding Co. incorporated with \$15,000 capital stock by Charles F. Rukes, Walter J. Scafe and Gustav Gels.

Mo., St. Louis.—Metal Weather Strips.—Monarch Metal Weather Strip Co., 3032 Olive St., J. D. Pierce, manager, awarded contract to George Ziller, 4524 Chouteau Ave., St. Louis, to erect semi-fireproof building recently noted; 50x150 feet; two stories; cost \$14,000; daily capacity 10,000 feet of zinc and bronze metal weather strips. (See "Machinery Wanted.")

Mo., St. Louis.—Metal Weather Strips, Screens, etc.—McKee Green Manufacturing Co. incorporated with \$5000 capital stock by O. M. Green, McKee Green and H. W. Chandler.

### MINING

Fla., Tarpon Springs.—Silica.—Triton Silica Mining Co. organized to develop silica; D. F. Conoley, president, Tampa & Tarpon Springs Land Co., Tampa, Fla., can give information.

Fla., Polk County.—Phosphate.—Amalgamated Phosphate Co. (main offices, 25 S. Calvert St., Baltimore, Md.) purchased several thousand acres of phosphate mining property in Polk county and will develop; in addition to phosphate plant it is proposed to build water-works and electric-light system; mines are expected to be in operation about February or March; capacity, 1500 tons phosphate daily; Anton Schneider of Tampa, Fla., will be manager.

Ky., Seebree.—Seebree Mining & Development Co. incorporated with \$75,000 capital stock by W. F. Hanby, W. H. Beatty and William H. Beatty.

Okla., Miami.—Prairie Mining Co. incorporated with \$100,000 capital stock by James S. Mabon, C. P. Williams, W. A. Wagoner and others.

Tex., Bowie—Shale.—Chamber of Commerce is promoting organization of company with \$25,000 capital stock to develop shale deposits.

### MISCELLANEOUS CONSTRUCTION

Ark., Newport—Levee.—Jackson county awarded contract to Ford & McCrea, Gazette

Bldg., Little Rock, Ark., to construct Village Creek and White River levee in Jackson and Woodruff counties; will be 25 miles long and protect 25,500 acres; cost \$150,000.

Ark., Vauluse-Levee.—Bids invited for 40,000 cubic yards of levee work. Address N. C. Williamson, Millikin, Ark. (See "Machinery Wanted.")

Fla., Garden City—Pier.—Atlantic, Okeechobee & Gulf Railroad, Hiram McElroy, engineer in charge, Tampa, Fla., will construct pier. (See "Railway Shops, Terminals, Roundhouses, etc.")

Fla., Tampa—Bulkhead.—City will construct bulkhead at foot of Whiting St.; bids received until November 21; D. B. McKay, chairman, Board of Public Works. (See "Machinery Wanted.")

Fla., West Palm Beach—Dock.—H. C. Quinn, representing Champion Bridge Co. of Wilmington, O., is preparing plans for municipal dock to cost about \$800; City Council will receive competitive bids for erection of structure; \$8000 bond issue voted. (Recently mentioned.)

Tenn., Bartlett—Embankment.—Shelby county will construct embankment along creek at Bartlett; bids received until November 20; W. T. Bond, chairman, committee, 65 Madison Ave., Memphis, Tenn.; St. George Richardson, County Engineer, Memphis. (See "Machinery Wanted.")

Va., Richmond—Chas. E. Bolling, City Engineer (recently noted to prepare modified plans), states proposals will be received at his office until 3 P. M. November 29 for construction of (about) 700-foot timber and pile bulkhead wharf; separate proposals on removal of earth, gravel and rock between wharf and channel; plans, etc., obtainable from office of engineer. (See "Machinery Wanted.")

#### MISCELLANEOUS ENTERPRISES

Ark., Argenta—Publishing.—Argenta Daily Journal incorporated with \$7500 capital stock by H. G. M. Morgan, O. C. Ludwig, A. B. Gerlach and others.

Ala., Birmingham—Publishing.—Progressive Farmer secured, through Jemison Real Estate Co., two-story building at Fourth Ave. and 17th St. and will equip as newspaper plant; John S. Pearson will be business manager.

Ark., Little Rock—Publishing.—Arkansas Farmer & Homestead Co., J. W. Booth, president, 209 Louisiana St., contemplates installation of new printing plant; has building. (Recently noted incorporated with \$25,000 capital stock to publish monthly farm journal.)

Ga., Macon—Navigation.—J. D. Howden of Macon and A. J. Weber of New York purchased Macon-Brunswick Navigation Co.; reported to incorporate new company to be known as Macon-Brunswick Navigation Co. of Macon.

Ky., Louisville—Seed.—Hall Seed Co. incorporated with \$50,000 capital stock by E. C. Foltz, W. P. Hall and W. P. Bunton.

La., New Orleans—Farming Implements.—John Rely Hoe Co., 640 Magazine St., Wm. B. Rely, president (recently reported incorporated with \$45,000 capital stock under "Miscellaneous Factories"), will have product manufactured by American Fork & Hoe Co., Cleveland, O.; will not manufacture as lately noted.

Md., Baltimore—Contracting.—Chesapeake Contracting Co. incorporated with \$5000 capital stock by Christian Mutschler (104 Stewart Bldg.), William Allen and Frederick J. Schlossstein.

Md., Baltimore—Construction.—William A. Potts Construction Co. incorporated with \$5000 capital stock by William A. Potts of John F. Potts & Sons, 401 W. 28th St. N., George L. Potts, Elmer J. Jones and others.

Miss., Laurel—Laundry.—H. P. Smith, Hattiesburg, Miss., purchased Laurel Steam Laundry and will double capacity of plant.

Okl., Tulsa—Drilling.—Globe Drilling Co. incorporated with \$15,000 capital stock by B. M. Gessell, Ben C. Conner and R. S. Sherman.

S. C., Rock Hill—Printing.—Herald Publishing Co. incorporated with \$10,000 capital stock; J. T. Fain, president and treasurer, and Annie R. Fain, secretary; will publish daily and semi-weekly newspapers.

Tenn., Memphis—Electric Supplies.—Electric Supply Co. increased capital stock from \$50,000 to \$100,000.

Tex., Brenham—Laundry.—B. C. Beauchamp purchased Brenham steam laundry and will install machinery.

Tex., Houston—Stock Yard.—J. M. Hussey, Fort Worth, Tex., secured options on 530 acres of land and will incorporate company

with \$300,000 capital stock to establish export stock yard; 60 acres are to be reserved for yards, upon which facilities will ultimately be constructed for handling 500 carloads daily; initial plant to handle about 50 cars of cattle daily; remaining portion of land will be offered to packing companies for erection of plants; plans and specifications have been prepared for yards, trackage and one building to cost \$80,000, to be known as Houston Live Stock Exchange; other capitalists interested are C. D. Reimers, P. M. DeWitt, Sam Davidson and W. B. Harrison.

Tex., Newcastle—Publishing.—Register Publishing Co. incorporated with \$25,000 capital stock by G. H. Bunker, J. M. Hubbard, J. J. Perkins and others.

Tex., Fort Worth—Dyeing.—Fishburn Steam Dye House organized with W. B. Fishburn, president and manager; W. R. Paddock, vice-president; C. H. Collamer, secretary-treasurer; will operate dyeing establishment. (Recently reported incorporated with \$21,000 capital stock.)

Tex., San Antonio—Taxicab Company.—Company changed name to San Antonio Transfer & Taxicab Co. and increased capital stock from \$15,000 to \$30,000.

Tex., San Antonio—Transfer.—San Antonio Transfer Co. incorporated with \$5000 capital stock by H. E. Hildebrand, John M. Roberts and C. B. Craft.

Va., Norfolk—Electrical.—Ernest H. Meeks Electrical Co., 75 Plume St., incorporated with \$30,000 capital stock; Ernest H. Meeks, president; J. J. Collins, vice-president; E.

Ala., Tuscaloosa—Gas.—City Commissioners granted franchise to F. G. Blair and Henry B. Foster to build and operate gas plant, etc. (See "Electric Plants.")

Ala., Tuscaloosa—Bottling Works.—Coca-Cola Bottling Co. purchased site 82x132 feet, and will erect plant for manufacturing and bottling coca-cola.

Ark., Little Rock—Bottling Plant.—Coca-Cola Bottling Works will erect bottling plant and warehouse; two stories and basement; mill construction; cost \$15,000.

D. C., Anacostia—Gas.—Washington Gas Co., 411-417 10th St. N. W., Washington, D. C., will lay 12-inch gaspipes in Anacostia to replace present six-inch mains.

D. C., Washington—Lettervelup Co. incorporated with \$50,000 capital stock by Joseph B. Stein, Gunton Bldg., 472 Louisiana Ave. N. W.; H. Lee Kolb, S. N. Rosenthal, H. S. Walcott, John M. Willson and others, all of Washington.

D. C., Washington—Bakery.—Corby Bros. awarded contract at \$76,380 to James L. Parsons, 616 Union Trust Bldg., Washington, to erect addition to bakery; three stories; steel, concrete and brick fireproof construction; 25x144 feet; will contain ovens and conveyors.

Florida—Naval Stores.—Betts Naval Stores Co. incorporated with \$300,000 capital stock; W. B. Gillican, president of Gillican-Vizard Company, 909 Hibernia Bldg., New Orleans, La., is president; Buckner Chipley, vice-president, and J. A. Taylor, secretary-treasurer, both of New Orleans; will develop about 65,000 acres long-leaf pine timber in Western Florida for turpentine and rosin;

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T. Meeks, secretary-treasurer; succeeds Ernest H. Meeks, electrical contractor.

Va., Richmond—Publishing.—Farmers' Publishing Co. increased capital stock from \$3000 to \$5000.

#### MISCELLANEOUS FACTORIES

Ala., Corey—Coal-tar Products.—Barrett Manufacturing Co. of 17 Battery Pl., New York, and also of Birmingham, Ala. (with plant at Ensley, Ala.), purchased 31 acres land between Corey and Ensley. Mr. Perry of Barrett company advises Manufacturers Record that plant will be erected, but details are not ready for announcement; company manufactures coal-tar products.

Ala., Corey—Sulphuric Acid.—Exum Chemical Co. (C. Exum and R. A. Brown of Birmingham, Ala.) purchased machinery for sulphuric acid plant; capacity 30,000 tons annually; building semi-fireproof construction; cost \$250,000; plans by P. C. Hoffman, Richmond, Va.; company not organized; begin operations by April 1. (Contract recently noted awarded to Ager & Cline of Birmingham.)

Ala., Ensley—Wrenches.—Bessola Invention Co., W. L. Bessola, president, will not establish pipe-wrench factory at Ensley. Previously noted. (See "Machinery Wanted.")

Ala., Montgomery—Syrup.—Henry F. Vandiver and J. G. Musgrove will erect syrup factory; main building to be of concrete; two stories; investment about \$50,000; cane will be secured from plantation on which plant will be built.

Ala., Ragland—Gas.—City granted franchise to Frank M. Morris and associates to operate gas lighting and fuel plant.

all details not decided; contemplates plant costing about \$50,000; plant including turpentine cups, teams, shanties for employees and distillery.

Fla., Tampa—Acetylene.—United States Acetylene Co., V. P. Roberts, vice-president, Minneapolis, Minn., contemplates, it is reported, organization of auxiliary company to establish acetylene lighting plant in Tampa.

Fla., Tampa—Drugs.—Hutchinson Drug Co. will be incorporated with \$40,000 capital stock by J. J. Schoenborn, Fred Hutto and Curry J. Hutchinson; will remodel present Hutchinson drug store and install ice-cream equipment.

Ga., Atlanta—Paper.—National Paper Co. will erect building; four stories; brick and concrete.

Ga., Covington—Lamp Fixture.—F. P. Harrison, care of Water & Light Plant, contemplates organization of company to manufacture tungsten lamp fixture, of which he is inventor; Ben T. Comer of Lowell Machine Shop, Lowell, Mass., is interested.

Ga., Gainesville—Paper, Pulp, etc.—Byrd-Matthews Investment Co., R. M. McCombs, president, St. Louis, Mo., is interested in proposed establishment of paper, pulp and tannic acid plant. (See "Lumber Manufacturing.")

Ga., Rome—Bagging, etc.—Southeastern Bagging & Tie Co. incorporated with \$7500 capital stock by A. A. Flite, E. B. Barclay and E. A. Green.

Ky., Louisville—Paints.—Louisville Lead & Color Co., 15th and Lytle Sts., L. R. Atwood, president, has not definitely decided as to

equipment for plant under construction. (Recently noted.)

Mo., Kansas City—Galvanizing.—Western Galvanizing Co., 209 N. Park Ave., purchased 30x60-foot one-story brick factory with equipment, and will operate hot galvanizing jobbing plant; galvanizing 150 to 200 metal oil barrels daily; Thomas E. Gaines, president and manager; E. B. Martin, secretary. (Recently noted incorporated with \$10,000 capital stock.)

Mo., Springfield—Brewery.—Ozark Brewing Co. incorporated with \$100,000 capital stock by F. H. Kohring, L. Kohring and Otto C. Kohring.

Mo., St. Louis—Shoes.—Superior Shoe Manufacturing Co. incorporated with \$30,000 capital stock by Oscar W. Burg, Rudy E. Bloch and Joseph L. Kohner; leased three-story factory building at 2901 Benton St., and will equip as shoe factory; capacity 500 to 1000 pairs daily.

Mo., St. Louis—Barbers' Supplies.—Koken Barber Supply Co. will erect factory and office building; six stories; 145x110 feet; will be addition to present factory; plans prepared; bids being received.

Mo., St. Louis—Rubber Paints and Products.—National Rubber Co., Eugene Swartzwald, president, secured building at 4414 Papin St.; will remodel and equip for manufacturing rubber paints and other rubber products used in preserving automobile tires, waterproofing aeroplanes, etc. (Company was recently reported incorporated with \$20,000 capital stock.)

Mo., St. Louis—Automobile Truck Jacks.—Curtis Jack & Truck Co. incorporated with \$75,000 capital stock by J. R. Curtis, H. C. Flunker, A. W. Smith and others to manufacture combination jack and hand truck for handling automobiles in garages.

Mo., St. Louis—Bakery.—American Bakery Co. will expend \$35,000 for improvements. (See "Miscellaneous" under Building News.)

N. C., Wilmington—Candy.—North State Candy Co. elected E. L. Mathews, president; J. W. Brooks, vice-president; George L. Farmer, secretary-treasurer; will occupy building at Water and Chestnut Sts.; will use equipment of E. L. Mathews Candy Co., to which new machinery will be added. (Recently reported incorporated with \$50,000 capital stock.)

S. C., Blacksburg—Drugs.—Cedar Drug & Manufacturing Co. incorporated with \$30,000 capital stock by H. P. Dew and W. E. Anstett.

S. C., Rock Hill—Overalls.—Hamilton Carhartt will, it is reported, erect overall factory.

S. C., Spartanburg—Brooms.—Muckenfuss Manufacturing Co. incorporated with \$5,000 capital stock by W. G. Muckenfuss, Jr., and S. V. Muckenfuss.

S. C., Sumter—Building Supplies.—Sumter Building & Supply Co. incorporated with \$10,000 capital stock by J. M. Harby and W. H. Cuttino.

Tenn., Dyersburg—Hoops.—Dyersburg Hoop Co. incorporated with \$10,000 capital stock by A. J. Sides, Charles F. Sides, L. M. Sides and others.

Tenn., Meadow.—Cumberland Marble Mill Co. contemplates installing additional machinery in plant, including four gang saws, derrick, rubbing bed and probably travelling crane.

Tenn., Paris—Toilet Preparations.—National Toilet Co., W. C. Johnson, secretary-treasurer, purchased 63x108-foot two-story building, and will expend \$6000 for improvements; install additional equipment; character of improvements not determined; probably day labor. (Recently noted.)

Tex., Dallas—Creamery.—North Texas Creamery Co. incorporated with \$20,000 capital stock by D. M. Mebane, Dallas; M. Mortenson, Houston, Tex., and others.

Tex., El Paso—Oil Tanks.—Pierce-Fordyce Oil Association, 1420 Olive St., St. Louis, Mo., purchased 160 acres on which to erect oil tanks.

Tex., Fort Worth—Oil Refinery.—Pierce-Fordyce Oil Association, 1420 Olive St., St. Louis, Mo., will erect oil refinery; capacity 400 barrels; plant will include stills, tanks (some of latter to have capacity of 50,000 barrels), tank cars, offices, storage sheds, etc.; building material ordered; site comprises 75 acres; cost \$1,000,000 to \$1,500,000; W. Holt Harris, district manager, Fort Worth.

Tex., Luling—Collars.—F. Homan will erect collar factory and tannery.

Tex., San Antonio—Soap.—Lange Soap Co. increased capital stock from \$40,000 to \$100,000.

Tex., San Antonio—Bakery.—Bohnert Baking Co. incorporated with \$3000 capital stock by G. Bohnert, G. A. Hoedling and Willie Hoedling.

Va., Ocean—Scrap Oil.—Bellows & Squires,



Joseph F. Bellows, president, will make improvements to plant, including installation of press, engines, etc.; cost \$15,000; material and machinery ordered. (Recently noted to increase capital stock to \$300,000.)

Va., Richmond.—Ticket Cutter.—Hargis Ticket Cutter Co. incorporated with \$50,000 capital stock; H. W. Hargis, president, Raleigh, N. C.; E. D. Jordan, secretary and treasurer, Portsmouth, Va.

Va., Danville.—Specialty Co. incorporated with \$25,000 capital stock; J. C. Hannan, president; L. L. Armistead, vice-president; J. W. Fretwell, secretary and treasurer.

Va., Richmond.—Fuel.—Briquettes.—Charles T. O'Ferrall, Jr., and R. A. and John A. Lancaster will organize stock company to manufacture fuel briquettes from sawdust.

W. Va., Weston.—Glass.—Lewis County Glass Co. incorporated with \$75,000 capital stock by George J. Keene, J. M. Dennison, F. J. Orr and others.

### MOTORS AND GARAGES

Md., Frederick.—Ideal Garage Co. incorporated with \$30,000 capital stock by Grayson H. Sraley, Elias B. Ramsburg and others; will absorb Frederick City Garage; erect garage 55x234 feet; storage capacity for 75 cars; machine shop in rear. (Recently noted.)

Mo., Kansas City.—J. W. Mabry will erect garage; brick; cost \$4000.

Mo., St. Joseph.—Buchanan Auto Co. incorporated with \$2000 capital stock by E. T. Wells, A. K. Burger and C. C. Rhodus.

Mo., St. Louis.—Moon Motor Car Co., J. W. Moon, president, will erect additional story to present building; daily output five automobiles; no further machinery or supplies needed at present. (Recently noted.)

Mo., St. Louis.—Henry Leschen, president of A. Leschen & Sons Wire Rope Co., is reported as interested in organization of company to erect motor mart building; 8 to 12 stories; 40x130x155x157 feet; private electric-light plant; cost \$400,000 to \$500,000.

N. C., Gastonia.—Gastonia Garage Co. incorporated with \$2000 capital stock by A. G. Myers, John C. Rankin, W. H. Adams and others.

Okla., Tulsa.—Southwestern Auto Co. incorporated with \$1000 capital stock by J. D. Gibby, Carl C. McGee and Hull Hancock.

S. C., Greenville.—Marathon Car Co. incorporated with \$15,000 capital stock by H. D. Caldwell, O. K. Mauldin and Charles W. Ellis.

Tenn., Shelbyville.—Belmont Auto Co. organized with \$5000 capital stock by F. N. Stower, W. A. Frost, H. W. Woosley and others.

Tenn., Memphis.—Tri-State Auto Co. incorporated with \$1000 capital stock by J. F. Hignan, R. L. White, R. G. Brown and others.

Tex., Galveston.—Garage.—Moritz O. Kopperl will expend \$15,000 to \$20,000 to erect garage; 90x150 feet; brick; bids opened November 10; to be occupied by Interstate Sales Co., of which Mr. Kopperl is president. (Recently noted under "Miscellaneous Enterprises.")

Va., Norfolk.—Virginia Automobile Garage and Repair Corporation incorporated with \$10,000 capital stock; H. L. Page, president; A. M. Bopp, vice-president; P. A. Page, secretary-treasurer.

W. Va., Charleston.—Kanawha Auto Truck Co. incorporated; W. S. Roberts, president; D. S. Gunther, superintendent; will establish plant at Triple State Garage, Kanawha and McFarland Sts., to manufacture auto trucks.

W. Va., Wheeling.—August E. Nay will erect garage; fireproof; will equip with turntable and underground. (See "Dwellings.")

### RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Fla., Garden City.—Atlantic, Okeechobee & Gulf Railroad, Hiram McElroy, engineer in charge, Tampa, Fla., will build freight terminals, including pier 300 feet wide and extending into water distance of 1½ miles; slips to be provided on either side to afford accommodation for four vessels to dock; site comprises 154 acres.

Mo., Kansas City.—Chicago & Alton Railroad, W. D. Taylor, chief engineer, Chicago, Ill., is having plans prepared for boiler shop, machine shop (60x64 feet) and hot-water well; awarded contract to Toledo Bridge & Crane Co., Toledo, O., for 90-foot turntable.

Mo., Slater.—Chicago & Alton Railroad, W. D. Taylor, chief engineer, Chicago, Ill., awarded contract to Toledo Bridge & Crane

Co., Toledo, O., for 90-foot turntable. (Recently mentioned.)

Okla., Westville.—Kansas City Southern Railway, C. E. Johnston, chief engineer, Kansas City, Mo., will, it is reported, erect terminals, including roundhouse and machine shops.

### ROAD AND STREET WORK

Ala., Birmingham.—City will pave Eighth Ave. from West 20th to 28th St. with bitulithic on roadways and concrete paving on street railway company's right of way; cost \$41,000; contract awarded to Southern Bitulithic Co., Nashville, Tenn.; Maury Nicholson, City Engineer.

Ala., Carrollton.—Pickens county will construct road leading from Pickensville to Carrollton. Address County Commissioners.

Ala., Columbiana.—Shelby County Commissioners will construct road from Calera to Pelham, to be link of Tennessee-to-the-Gulf Highway.

Ala., Guntersville.—Marshall county will vote on \$125,000 bond issue for road construction. Address County Commissioners.

Ala., Brewton.—Escambia County Commissioners will receive bids until November 29 for grading, draining and surfacing with gravel about nine miles of road; W. S. Keller, State Highway Engineer. (See "Machinery Wanted.")

Ala., Decatur.—DeKalb county will vote December 7 on \$50,000 bond issue for road improvements. Address County Commissioners.

Ark., Little Rock.—City Council appropriated \$14,500 for paving in Gaines Street Improvement District, extending along Gaines St. from Markham to 28th St. and along 18th St. from Arch to Gaines St.; also appropriated \$13,500 to West Twenty-third Street Improvement District. Address The Mayor.

Ark., Little Rock.—City Council authorized formation of improvement district to include Cumberland St. from Capitol Ave. to 14th St.; all streets extending east and west between Capitol Ave. and 14th St. are to be paved between Main and Rock Sts. with exception of 9th St., which is already paved; also authorized formation of improvement district on W. 7th St. from Center to Victory St. Address The Mayor.

Fla., Tampa.—City will construct sheet cement sidewalks in various subdivisions; bids received until November 21; D. B. McKay, chairman Board of Public Works. (See "Machinery Wanted.")

Fla., Tampa.—City will pave Nebraska Ave. from Twiggs to Ruby St., Ruby St. from Nebraska to Maryland Ave. and repair Seventh Ave. from 10th to 14th St. Address The Mayor.

Ga., Fort Gaines.—Clay county will vote December 7 on \$30,000 bond issue for road construction. Address County Commissioners.

Ga., Forsyth.—Monroe county will vote on \$300,000 bond issue for road improvements. Address County Commissioners.

Ga., Quitman.—City will vote January 16 on \$23,000 bond issue for street paving. Address The Mayor. (Recently mentioned.)

Ga., Waycross.—Ware County Commissioners will be petitioned to order election for voting on \$150,000 bond issue for road improvements.

Ky., Paducah.—Jefferson Davis Highway Association will construct Jefferson Davis memorial highway, consisting of 400 miles of uniform macadamized road extending from Bowling Green by way of Fairview and Paducah to Wickliffe, Ky.; work will include concrete culverts and bridges; construction will begin in early spring; James S. Caldwell of Paducah, chief engineer. (Recently noted to have contracted with Mr. Caldwell to make preliminary surveys.)

La., Houma.—City will open and pave Lafayette St. with shells to Bayou Black; Calvin Wurzelow, Mayor.

La., Shreveport.—Caddo Parish Police Jury will construct five roads, one to extend from Shreveport westwardly. J. T. Bulen is engineer.

Md., Baltimore.—City awarded contract to F. E. Schneider Paving Co., 331 Law Bldg., Baltimore, at \$48,930.40 for paving streets in vicinity of Fifth Regiment Armory; Hoffman, Eutaw Pl. to Brevard St., sheet asphalt over cobblestones; Bolton, Hoffman St. to Lafayette Ave., sheet asphalt over cobblestones; Brevard, Cathedral to Dolphin St., sheet asphalt on concrete foundation; Preston, Eutaw Pl. to Cathedral St., partly sheet asphalt over cobblestones and partly on concrete base; Dolphin, Brevard St. to Mount Royal Ave.; R. Keith Compton, chairman Paving Commission. (Recently mentioned.)

Md., Towson.—Baltimore county voted \$1,500,000 bond issue for roads; Henry P. Mann, Charles L. Matfield and William Byerly, County Commissioners.

Miss., Vicksburg.—City will vote January 23 on \$100,000 bond issue for street improvements. Address The Mayor.

Mo., Kansas City.—Federal Investment Co.'s force is proceeding with construction of roadway paving recently noted; about 25,000 square yards.

Mo., Elsberry.—Directors Hurricane Township Gravel Road Co. will receive bids until noon November 23 for construction of 8½ miles of macadamized and gravel roads; work includes about 32,000 yards grading, 11,000 yards macadam and gravel and bridge and culvert work; plans and specifications on file with board; J. J. Shaw, secretary.

Mo., Sturgeon.—Sturgeon and vicinity contemplate expending \$300 per section for first year for improvement of roads leading into Sturgeon; will construct 14-foot culverts, fill low places and drain roads; use split-log drag; commissioners will act as engineers; Dennis Spelman, commissioner. (Recently noted to organize road district.)

Mo., Elsberry.—Hurricane Township Gravel Roads Co., J. J. Shaw, secretary, will, it is reported, receive bids until November 23 for construction of 8½ miles of macadamized and gravel road, including about 32,000 yards grading, 11,000 yards macadam and gravel and bridge and culvert work. (Previously mentioned.)

Okla., Oklahoma City.—Oklahoma County Commissioners rescinded action calling election to be held November 25 for voting on \$1,250,000 bond issue for road construction. (Recently mentioned.)

Okla., Pawhuska.—Strike-Axe Township of Osage county voted \$30,000 bond issue for road construction. Address County Commissioners.

Okla., Tulsa.—City will pave portions of 4th, 5th, 7th, 8th, 15th, Cameron and Easton Sts., Cincinnati, S. Denver, N. Denver, Carson and Perryman Aves. and Duluth Pl.; plans and specifications on file in office of City Engineer; bids received until November 21; E. B. Cline, City Auditor. (See "Machinery Wanted.")

S. C., Charleston.—Charleston Fair and Racing Association, L. A. Cassidy, secretary, will construct racetrack; length, one mile; width, 160 feet; slope, three feet from outside. (See "Miscellaneous" under Building News.)

S. C., Chester.—Chester County Commissioners awarded contract to B. E. Pool, Columbia, S. C., to construct sand-clay road.

Tenn., Dickson.—Dickson County Turnpike Co. will construct road from Dickson to Cumberland Furnace, 16 miles.

Tenn., Halls.—City votes November 14 on \$20,000 bond issue for improving streets and sidewalks and constructing sewerage system. Address The Mayor.

Tenn., Memphis.—Larkin & Co. are lowest bidders at \$10,560.88 for paving Calhoun Ave. from Main St. to Rayburn Blvd.; Heiskell Weatherford, City Engineer.

Tenn., Paris.—Henry County Commissioners' plans for construction of roads include proper grades, building clay levees on sand bars and graveling roads; work will be done under supervision of C. F. Williams, Supervisor of Public Roads; \$10,000 appropriation available, with equal amount secured from subscriptions. (Recently noted.)

Tex., Arcadia.—Galveston County Commissioners rejected bids for grading about two miles of road near Arcadia; John M. Murch, County Auditor, was authorized to readvertise for bids. (Call for bids lately noted.)

Tex., Beaumont.—City will vote December 20 on \$60,000 bond issue for street paving. Address The Mayor. (Recently mentioned.)

Tex., Boston.—Bowie county will vote on \$500,000 bond issue for road improvements. Address County Commissioners. (Recently mentioned.)

Tex., Bryan.—Brazos county will vote on \$200,000 bond issue for road improvements. Address County Commissioners.

Tex., Fort Worth.—City awarded contract to R. C. Stubbs Company to pave Wheeler St. and Alston Ave. with vibrolithic.

Tex., Galveston.—Galveston County Commissioners approved extension of seawall boulevard driveway through Fort Crockett reservation.

Tex., Greenville.—City will pave section of East Lee St. Address The Mayor.

Tex., San Antonio.—City will improve Garden and South Presa Sts. and Roosevelt Ave. to Fair Grounds; cost \$10,000. Address The Mayor.

Va., Lynchburg.—Common Council adopted

ordinance providing for \$650,000 bond issue for street improvements; Harry L. Shaner, City Engineer.

Va., Richmond.—City appropriated \$2300 for paving portion of Belvidere St. from Broad to Grace St.; Charles L. Bolling, City Engineer.

### SEWER CONSTRUCTION

D. C., Washington.—District Commissioners will construct sewers in Bunker Hill Rd. between Sergeant Rd. and Otis St. N. W., 3000 feet, cost \$6000; 2d St. between E St. and North Carolina Ave. and across 2d St. north of E St. S. E.; Lowell St. between 34th and 35th Sts. N. W.; 16th and E Sts. S. W.; 17th and E Sts. N. W.; 18th and E Sts. N. W.; Petworth valley outlet sewer extending from 14th and Varnum Sts. through grounds of municipal hospital to 13th and Upshur and Varnum Sts., and Georgia Ave. between Upshur and Taylor Sts., at \$24,000.

La., Morgan City.—City voted \$80,000 bond issue for sewer system and water-works. Address The Mayor.

Mo., Springfield.—Ozark Bell Telephone Co. will erect telephone exchange; three stories; plans prepared.

Mo., St. Joseph.—City is having plans prepared by Seltz-Peterman Engineering Co. for sanitary sewer in South Park between 5th and 7th Sts.

N. C., Greensboro.—Southern Railway, B. Herman, chief engineer, 1300 Pennsylvania Ave. N. W., Washington, D. C., will, it is reported, extend telephone system from Greensboro to Salisbury, N. C., to supplement line now in use from Monroe, Va., to Greensboro.

Okla., Oklahoma City.—City will construct eight-inch lateral sewers in Packington; will soon invite bids; Bob Parman, City Clerk.

Tenn., Halls.—City votes November 14 on \$20,000 bond issue for constructing sewerage system and improving streets and sidewalks. Address The Mayor.

Tex., Beaumont.—City will vote December 20 on \$30,000 bond issue for additional sewer construction. Address The Mayor. (Recently mentioned.)

Va., Richmond.—City awarded contract to A. W. Maynard of Richmond to construct 5000 linear feet of sewers from 5½ to 10 feet in diameter, and 2200 linear feet of sewers 2½ to 4 feet in diameter; cost \$40,375; Chas. E. Bolling, City Engineer. (Recently noted.)

Va., Richmond.—City will construct sewer in Main St. from West St. to Crenshaw Ave.; bids received until November 16; Charles E. Bolling, City Engineer.

W. Va., Warlick.—Marlinton & Clover Lick Mutual Telephone Co. contemplates increasing capital stock from \$125 to \$185.

### TELEPHONE SYSTEMS

Ark., Arkadelphia.—C. C. Crow, manager, states that Southwestern Telegraph & Telephone Co., Dallas, Tex., will expend \$20,000 for rebuilding in January. (Recently noted as to make improvements to Arkadelphia Telephone Co.'s plant.)

S. C., Conway.—Farmers' Telephone Co. incorporated with R. O. Hanson president, T. J. Jacoby vice-president, H. H. Lee secretary, W. D. Moore treasurer.

S. C., Ridgeland.—Jasper Telephone Co. will construct telephone exchange; C. E. Perry is president.

Tenn., Dyersburg.—Dyersburg Home Telephone Co. incorporated with \$5000 capital stock by John Nunn, W. P. Watson, A. H. Moody and others.

Tenn., Springfield.—Springville Telephone Co. incorporated by G. R. Baucum, R. N. Clendenin, H. L. Price, I. L. Riggs and B. McAdoo; will operate telephone systems in Henry and Benton counties.

Tex., McKinney.—Union Telephone Co. incorporated with \$75,000 capital stock by C. E. Dorchester, C. A. Shock and H. W. Head; proposes to construct telephone system through 11 counties, including Cooke, Grayson, Fanning, Lamar and Delta counties.

Tex., McKinney.—Union Telephone Co. purchased equipment, machinery and supplies for improvements recently noted.

### TEXTILE MILLS

Ala., Alabama City.—Sheetings and Drills. Dwight Manufacturing Co., reported last week as to install 100 Draper looms, states it is not planning any additions, but is installing 800 Draper looms to take place of same number of common looms.

Ga., Forsyth.—Cotton Yarns.—Star Cotton Mill, reported last week as to operate plant

of Newton (Harp Manufacturing Co.) will have capital stock of \$30,000, with privilege of increasing to \$100,000; install new spinning equipment to cost about \$12,000 and new steam plant to cost \$3000; machinery purchased; has brick structure, 210x70 feet, equipped with 3240 spindles, etc.; daily production 3100 pounds cotton yarns; will be ready to operate about January 1.

N. C. Brevard—Cotton Yarns.—Brevard Cotton Mills incorporated with \$100,000 capital stock by W. C. Cleveland and J. Hudson Williams of Greenville, S. C., and Welch Galloway of Brevard; will take over and operate plant of Transylvania Cotton Mill Co.; will use electric power and later may install steam plant; C. M. Cooke, Jr., Brevard, in charge.

N. C. High Point—Silks.—Stehli & Co., 84 and 86 Greene St., New York, reported last week as to erect additional structure for weaving department, 12x144 feet, states that arrangements have already been made for building and equipment; will install 100 looms.

## WATER-POWER DEVELOPMENTS

Ala., Talladega.—Alabama Power & Light Co., R. A. Mitchell, president, Gadsden, Ala., reported to have acquired necessary property and to arrange for construction of proposed water-power-electrical plant at Jackson Shoals near Talladega; site is being cleared preparatory to building foundations of dam; expects to develop from 2000 to 3000 horse-power and transmit electricity to Talladega and Anniston; estimated expenditure \$200,000. (Company previously reported incorporated.)

## WATER-WORKS

Ala., Bessemer.—City will vote November 27 on issuance of bonds for construction of water-works. Address The Mayor.

Ala., Ragland.—City granted franchise to Frank M. Morris and associates to operate water-works.

Ala., Piedmont.—City awarded contract to J. B. McCrary Company, Atlanta, Ga., for recently-noted extension to water-works; P. W. Roberts, Mayor. (See "Electric Plants.")

Ark., Fort Smith.—City will rebuild water-works; improvements will include new pumping station, intake further up river, primary settling basins, filtration plant, intake protected from back floods from both Arkansas and Mill Creeks, etc.; G. W. Kiersted will be hydraulic engineer in charge.

La., Loreauville.—City postponed date of opening bids for construction of water-works from November 15 (as lately stated) to December 15; J. E. Prince, Mayor. (See "Machinery Wanted.")

La., Morgan City.—City voted \$50,000 bond issue for water-works and sewer system. Address The Mayor. (Recently mentioned.)

Miss., Greenville.—City voted to construct water-works; will issue bonds. Address The Mayor.

Miss., Vicksburg.—City will vote January 23 on \$100,000 bond issue for water-works. Address The Mayor. (Details recently noted.)

Mo., Independence.—Jackson county will construct water supply pipe line from Independence or Kansas City to Jackson County Home for Aged and Infirm; also construct concrete reservoir, install pumping machinery and furnish and erect necessary piping and fittings; L. M. Gilday, County Clerk, Independence, will receive alternate bids until November 24; Burns & McDonnell, 821-826 Searlitt Bldg., Kansas City, Mo., are engineers.

N. C. Charlotte.—Gilbert C. White, engineer, Charlotte, N. C., submitted plans to Water Commissioners for pumping station at Catawba River to contain electrical pumps and other machinery; structure is to be about 30 feet above normal level of Catawba River and cost \$5000 to \$9000. (Recently mentioned.)

Okla., Braggs.—City rejected bids for water-works construction; new bids received by J. J. Johnson, Town Clerk, until 2 P. M. November 14; 17,000 feet 8-inch to 4-inch C. I. pipe, 18 hydrants, 30,000-gallon tank and tower, etc.; plans and specifications with Town Clerk and with Winters & Dove, engineers, 800 First National Bank Bldg., Fort Smith, Ark. (Recently noted.)

Okla., Inola.—Town voted \$19,500 bond issue to construct water-works. Address Town Clerk.

Tex., Mt. Vernon.—City will vote December 16 on \$20,000 bond issue for construction of water-works. W. E. Haydon, Mayor. (Recently mentioned.)

W. Va., Middlebourne.—Middlebourne

Water Co., K. S. Boreman, president (recently reported incorporated with \$10,000 capital stock) will construct water-works; 100 gallons per minute capacity; cost \$3500; to include 20x40-foot pumping station; also 60,000-gallon tank; day labor; Mentor Hetzer, Moundsville, W. Va., will supervise construction. (See "Machinery Wanted.")

W. Va., Wheeling.—City will vote December 5 on \$300,000 bond issue for filtration plant and playground. Address The Mayor.

## WOODWORKING PLANTS

Ga., Atlanta.—Furniture.—Atlanta Furniture Corporation incorporated with \$50,000 capital stock by W. A. Niall, James A. Brierley of Fulton county, W. E. Armistead of Washington county, Georgia.

Ga., Forsyth.—Doors, etc.—Alexander-Haynes Lumber Co. incorporated with \$5000 capital stock by J. F. Alexander and R. B. Haynes to manufacture doors, sash, blinds, furniture, etc.

Ga., Gainesville.—Furniture.—Byrd-Matthews Investment Co., R. M. McCombs, president, St. Louis, Mo., is interested in proposed establishment of furniture factory. (See "Lumber Manufacturing.")

Ga., Waycross.—Variety Wood Works.—D. S. Schureman, Rockford, Ill., will, it is reported, establish variety wood works; site to comprise about 30 acres.

Ky., Louisville.—Veneer.—Anderson Veneer & Sawmill Co. incorporated with \$60,000 capital stock by Olof Anderson, R. M. Cunningham and W. V. Shepherdson.

Ky., Louisville.—Tables.—Milton-Peter Manufacturing Co. has not made definite plans for rebuilding burned factory; will reorganize on larger basis and equip plant to manufacture dining tables. (Recently noted.)

Md., Baltimore.—Boxes.—Canton Box Co., 2515 Boston St., will erect addition to box factory; two stories; brick; 52x90 feet; fireproof; contract awarded to Blake & Engle, 300-301 Law Bldg., Baltimore; J. Appleton Wilson and Wilson L. Smith, 800 Law Bldg., Baltimore, are architects.

N. C., Rocky Mount.—Sashes, etc.—Rocky Mount Sash & Blind Co., J. C. Braswell, president, desires correspondence with architects relative to submitting plans for plant to replace burned factory. (Recently noted.)

Tenn., Cookeville.—Staves.—Laurel Creek Stave & Lumber Co. incorporated with \$100,000 capital stock by W. B. Ray, E. W. Christian, D. M. Speck and others.

Tenn., Humboldt.—Hoops and Headings.—George H. Woolever, McKenzie, Tenn., and others will establish hoop and heading factory; organized Oceola Hoop & Heading Co.

## BURNED

Ala., Anniston.—H. M. Moory's residence at Tyler Hill; loss \$5000.

Ala., Henderson.—Paul & King's cotton gin.

Ark., Gravette.—Peacock Roller Mill, Gravette Canning Co.'s plant; total loss about \$15,000.

Ala., Huntsville.—J. E. Penny's Huntsville Hotel Annex and Theater, loss \$50,000; May Conney's store, loss \$75,000; M. A. Collins' hardware store, loss \$16,000; Newman & Schloss' dry goods store, loss \$12,000; Pitman Bros.' store, loss \$18,000; P. L. Hedrick's store, loss \$12,000; Cantrell & Allen's drug store, loss \$17,500.

Fla., Pensacola.—Moving-picture theater owned by J. S. McClure of Lewis House.

Ga., Atlanta.—Lumpkin Company's building at 7 S. Pryor St.; Anderson Hardware Co.'s building at 9-11 Pryor St., damaged; total loss about \$25,000.

Ga., Sylva.—O. C. Everett's cotton gin and planing mill.

Ga., Sparks.—Sparks Collegiate Institute's dormitory; loss about \$8000.

Ga., Satilla Bluff.—D. Bailey's residence; loss \$5000.

Ga., Savannah.—Apartment-house at Habersham and Park Ave. occupied by Maurice F. Meyer and Mrs. J. H. Oppenheim damaged.

Ga., Vaughn.—I. N. Goodman's cotton gin; loss \$3000.

Ky., Louisville.—Henry Vogt Machine Co.'s plant at 10th St. and Ormsby Ave. damaged; loss \$10,000.

Ky., Paynes Depot.—C. P. Wheeler's residence near Paynes Depot; loss several thousand dollars.

La., New Orleans.—Zelon Dry Cleaning Co.'s plant.

La., St. Francisville.—New Hope school building; loss \$7000. Address The Mayor.

Md., Hamilton.—John H. Keener's residence on Greenfield Ave. near Hamilton Ave.; loss about \$3500.

Miss., Cary.—Edward Klaus' cotton gin.

Miss., Meridian.—White Star Laundry, owned by Robert Henderson; loss \$4000 to \$6000.

Mo., St. Louis.—Dr. Burton Lee Thorpe's residence at Ashby Rd. and Thorpe Pl.; loss about \$10,000.

Mo., Webb City.—Yellow Dog Mining Co.'s mill; estimated loss \$175,000; W. O. Coats is general superintendent.

N. C., Lenoir.—Home Milling Co.'s flour mill; loss \$6000.

N. C., Fayetteville.—Fayetteville Wooden Ware Co.'s dryhouse and warehouse; loss about \$9000.

Okla., Binger.—F. C. Oplita's cotton gin; loss about \$15,000.

S. C., Greenville.—A. M. Hayes Wholesale Grain & Produce Co.'s building; loss about \$15,000.

Tenn., Humboldt.—Marcenus F. Forsyth's residence and outbuildings; loss about \$3000.

Tenn., Lexington.—Bank of Lexington building; loss \$3000.

Tex., College Station.—Dining hall of Agricultural and Mechanical College; loss about \$21,000.

Tex., Greenville.—Residence of M. T. Mitchell and S. R. Gillham; loss \$7000.

Tex., Long Branch.—Cotton gin owned by J. B. Laboon, Midlothian, Tex.; loss \$4000.

Tex., Mount Pleasant.—C. W. Weber's store; C. O. Lide's store damaged; loss \$10,000.

Tex., Palestine.—Building of Moore Wholesale Grocery Co., main office Tyler, Tex.; loss about \$100,000.

Tex., Rogers.—J. E. Ashcraft's cotton gin; estimated loss \$10,000.

Tex., San Antonio.—J. A. Roosevelt's residence at 2119 Bandera St.; loss \$4000.

Tex., Teague.—Pumping station owned by Karner & Bennett of Mexia, Tex.

Tex., Vernon.—J. M. Rhoads' residence; loss \$5000.

Va., Lynnhaven.—W. W. Sawyer's store; Mrs. J. L. Burgess' residence damaged; loss about \$7000.

Tex., Waxahachie.—Rogers Hotel, Odd Fellows' Hall and other buildings; total loss about \$175,000.

Va., Dayton.—M. A. Layman's carriage works, loss \$4000; S. L. Coot's store, loss \$3500; Belmont Hotel, loss \$2500; G. W. Hedrick's building, loss \$9000.

W. Va., Zada.—Ford Sarritt's residence.

W. Va., Barboursville.—Chesapeake & Ohio Railway's pump-house; loss about \$5000; F. I. Cabell, chief engineer, Richmond, Va.

W. Va., Big Run, P. O. Marlinton.—W. W. Dempsey's circular-saw mill; loss \$1500.

or vapor heat; elevator; owners will receive subcontracts.

Mo., Kansas City.—C. O. Jones will erect apartment-house; brick; cost \$7500.

Mo., Kansas City.—Burch Investment Co. will erect apartment-house; brick; cost \$10,000.

Mo., St. Louis.—Lewis Realty & Building Co. will erect tenement-house at 4702-4704 Ashland St., to cost \$8000, and one at 4703 Ashland St., to cost \$4000; two stories.

Mo., St. Louis.—Jesse Morris Real Estate Co. will erect tenement-house at 4017-19 Connecticut St.; two stories; cost \$5000.

## ASSOCIATION AND FRATERNAL

Mo., St. Louis.—Mount Moriah Temple Association of Mount Moriah Lodge, Ancient Free and Accepted Masons, has plans for proposed temple; Egyptian style; 15x36 feet; reinforced concrete; estimated cost, \$60,000; cement finishings with terra-cotta trimmings; tile roof; plans by Maurau, Russell & Crowell, St. Louis.

N. C., Rocky Mount.—Golden Belt Lodge, Independent Order of Odd Fellows, will not at present erect lodge building. (Recently noted to have purchased site and to erect building.)

N. C., Wilmington.—Young Men's Christian Association has not definitely determined plans for association building to cost \$85,000; J. B. Huntington may be addressed. (Recently noted.)

Tex., Austin.—Ben Hur Temple, Order of Mystic Shrine, is planning organization of company with \$15,000 capital stock to purchase Turner Hall and remodel for mosque.

Tex., Denison.—Woodmen of the World contemplate erecting two-story 50x150-foot lodge building. (Recently noted.)

## BANK AND OFFICE

Ga., Atlanta.—C. W. McClure is reported to erect bank building; two stories; brick and stone; 45x100 feet; cost \$10,000.

Ga., Atlanta.—W. T. Healy is reported to erect office building on Forsyth, Walton and Poplar Sts.; 18 stories; 100x200 feet; cost \$750,000; plans by Morgan & Dillon and W. T. Downing, Atlanta.

Ga., Atlanta.—Charles P. Glover Company, 6 Auburn Ave., is having plans prepared to remodel building for stores and offices. (See "Stores.")

Ky., Pineville.—Pineville Building & Amusement Co., William Low, president, will erect office and theater building; 68x125 feet; cost \$14,000. (See "Theaters.")

Mo., Kansas City.—Muehlebach estate, George Muehlebach and Carl Muehlebach are reported considering erection of office or hotel building. (See "Hotels.")

Mo., St. Louis.—Koken Barber Supply Co. will erect office and factory building. (See "Miscellaneous Factories.")

Tex., Fort Worth.—W. D. Reynolds will, it is reported, erect 10-story building.

## CHURCHES

Ark., Pine Bluff.—St. Joseph Catholic congregation plans to erect edifice; J. T. Boreason, secretary-treasurer.

D. C., Washington.—Presbyterian Alliance is planning to erect edifice, probably in northern part of city; Dr. Daniel McFarlan, The Woodley, and others, committee.

Fla., St. Petersburg.—Central Christian Church has plans for edifice; 30x40 feet; 12-foot vestibule. Address The Pastor, Christian Church. (Recently noted.)

Ga., Atlanta.—Buckhead Baptist Church will erect edifice; brick; cost \$15,000. Address Pastor Buckhead Baptist Church.

Ga., Fitzgerald.—First Baptist Church will open bids at noon November 28 to erect edifice previously noted; cost \$30,000; plans by Sayre & Baldwin, 405 Buckley Bldg., Anderson, S. C.; Rev. T. M. Calloway, chairman of building committee; bids will be received at same time for plumbing, heating, wiring, art glass and seating. (See "Machinery Wanted.")

Ky., Paducah.—First Baptist Church plans to erect edifice; cost about \$30,000. Address The Pastor, First Baptist Church.

Mo., Kansas City.—Central Presbyterian Church plans to erect edifice. Address The Pastor, Central Presbyterian Church.

Va., Norfolk.—Elm Avenue Methodist Episcopal Church purchased site to erect edifice; D. W. Hall, S. E. Long, William Harrison and others, trustees.

N. C., Bessemer City.—Concord Methodist Church, Rev. J. Frank Armstrong, pastor, will erect edifice four miles from Bessemer City; probably brick.

# BUILDING NEWS

## BUILDINGS PROPOSED

### APARTMENT-HOUSES

Ga., Atlanta.—William A. Moore Realty Co. will receive bids until November 20 through Architect Haralson Bleckley, Empire Bldg., Atlanta, to erect bachelor apartment-house; 40x100 feet; nine stories; reinforced concrete construction; cost \$150,000. (Recently noted.)

Md., Baltimore.—C. M. Tickner of W. J. Tickner & Sons, 421-25 W. Camden St., has plans by Haskell & Barnes, 407 Wilson Bldg., Baltimore, for proposed apartment-house on Elsinor Ave.; three stories; frame; 30x57

feet; hardwood finishings; will receive bids until November 20; invited following to estimate on construction; E. D. Preston, 1637 Edmondson Ave.; H. W. Johnson, 312 Equitable Bldg.; E. G. Turner, Bateman Ave. near Garrison Ave.; Milton C. Davis, 15 E. Fayette St.; A. F. West, 405 Builders' Exchange, and George R. Morris, 46 Gunther Bldg., all of Baltimore.

Md., Hagerstown.—Rudy & Meredith have plans by Mack & Kountz, Hagerstown, for apartment and store building; five stories; brick; seven housekeeping apartments and baths and four bachelor apartments and baths; one store; metal tile roof; hot-water



S. C., Chester.—Parker Cotton Mills Co., Greenville, S. C., will erect church and school for operatives of Wylie Mills.

Tex., Denton.—First Baptist Church, Rev. Mr. Andrews, pastor, plans to erect edifice; cost about \$40,000.

### CITY AND COUNTY

Ga., Douglas—City Hall, etc.—Mayor and City Council are having plans prepared by G. Lloyd Preacher, Augusta, Ga., for city hall and fire station; two stories; brick and reinforced-concrete construction.

Ga., Quitman—Fire Department.—City will vote January 16 on \$12,000 bond issue for improvements to fire department. Address The Mayor. (Recently noted.)

Ky., Louisville—Library.—Library board is planning to erect proposed library.

La., Lake Charles—Jail.—Calcasieu Parish Police Jury is having plans prepared by Pavrot & Livaudais, New Orleans, La., for jail; cost about \$20,000.

Md., Baltimore—Stable.—Board of Awards, James H. Preston, president, will receive bids at office of Richard Gwynn, City Register, City Hall, until 11 A. M. November 22 to erect stable on Greenmount Ave. near North Ave. for Street-cleaning Department; certified check for \$500, payable to Mayor and City Council; drawings and specifications at office of Clarence E. Stubbs, Inspector of Buildings, City Hall. (Recently noted.)

Md., Baltimore—Hospital.—Board of Estimates fixed appropriation at \$85,500 for improvements to Bayview, of which \$75,000 will be used to convert old power-house into dining-room and sleeping quarters for nurses and attendants and to remodel present dining-room into quarters for patients now in dungeon.

Mo., Kansas City—Public Bath, etc.—Board of Park Commissioners has plans by A. Van Brunt & Co., 300 Reliance Bldg., Kansas City, for public bath, comfort station and fieldhouse; semi-dreproof construction; cost \$50,000.

Mo., Liberty—Home.—Clay county will vote December 16 on tax to erect county home; cost about \$30,000. Address County Commissioners.

Okla., Muskogee—Library.—Library Board, Carroll S. Bucher, president, will receive bids about January 1 to erect library; cost about \$50,000; plans by Henry D. Whitfield, 160 Fifth Ave., New York; Nagel & Peterson, engineers, Muskogee. (Previously noted.)

Tex., Amarillo—Jail, etc.—Potter county defeated \$40,000 bond issue to erect courthouse and jail; Frank Wolfelin, Clerk. (Recently noted.)

Tex., Fort Worth—City Hall.—City Commissioner Maddox and City Engineer Zandt will receive bids to remodel City Hall; cost about \$7000.

### COURTHOUSES

Fla., Brooksville.—Sealed bids will be received at County Clerk's office, Brooksville, until noon December 4 for construction of previously described courthouse, bids to be accompanied by certified check for \$3000, and bids for installation of steam-heating plant with certified check for \$200; drawings and specifications at Clerk's office and at office of Wm. A. Edwards, architect, 632 Candler Bldg., Atlanta, Ga.; J. A. Jennings, chairman, and M. H. Snow, secretary Board of County Commissioners.

Fla., Inverness.—Citrus County Commissioners, Walter F. Warnock, secretary, will receive bids until 9 A. M. November 27 to erect fireproof courthouse; plans and specifications at office of Willis B. Biggers, architect, Tampa, Fla., and of Mr. Warnock at Inverness, or may be had on deposit of \$25. (Recently noted.)

Okla., Atoka.—Atoka County Commissioners contemplate election to vote on \$40,000 bond issue to erect courthouse.

Tex., Amarillo.—City defeated \$40,000 bond issue to erect courthouse and jail; Frank Wolfelin, Clerk. (Recently noted.)

Tex., El Paso.—El Paso county voted \$40,000 bond issue for improvements to courthouse. Address County Commissioners. (Recently noted to vote on this issue.)

### DWELLINGS

Ala., Brewton.—Wiley Downing will erect several dwellings.

Ark., Little Rock.—Hilliard Bros. purchased about one acre of land and will erect two-story apartments with shops in rear; Batesville marble.

Fla., Jacksonville.—Brown Realty Co. will erect residence; two stories; frame; 23x40

feet; ordinary construction; fireplaces and stoves; cost \$3500; plans and construction by company.

Fla., St. Petersburg.—H. Allhop will erect residence; 25 rooms; cost \$5000.

Fla., St. Petersburg.—R. G. F. Taylor will erect bungalow; two stories; eight rooms; cost \$3500.

Ga., Atlanta.—W. T. Camp is having plans prepared by Walker & Chase, Candler Bldg., Atlanta, Ga., for two-story frame dwelling; nine rooms; hot-air heat; cost \$5500; will let contract soon.

Ga., Atlanta.—Joe M. Walker will erect residence; two stories; cost \$5500.

La., New Orleans.—L. Laroque will erect double cottage; cost \$3200.

La., New Orleans.—E. T. Barry will erect dwelling; two stories; cost \$7800.

Md., Baltimore.—William A. Beach, 1702 N. Caroline St., has plans by Henry J. Tinley, 314 N. Charles St., Baltimore, for bungalow on Duval Ave.; one and a half stories; frame; stone foundation; hardwood interior finishings; 30x45 feet; hot-water heat; gas and electric lighting; cost \$4500; bids opened.

Md., Baltimore.—Charles Hughes of Realty Securities Corporation, Charles and Lexington Sts., will have plans prepared by John R. Forsythe, 232 St. Paul St., Baltimore, for two cottages and two bungalows at Mont Alto; former two and a half stories, with broad verandas, slate roofs, concrete foundations; bungalows one and a half stories, overhanging slate roofs, electric lights, hot-water heat.

Md., Baltimore.—John S. Bridges, 26-28 S. Charles St., will not be ready to announce plans for dwelling until February 1; construction will not begin before spring. (Recently noted.)

Mo., Kansas City.—Long Construction Co. will erect residence; frame; cost \$4500.

Mo., Kansas City.—C. M. Wilson will erect residence; stucco; cost \$5000.

Mo., Kansas City.—J. R. Walker will erect dwelling; stucco; cost \$4000.

Mo., Kansas City.—C. L. Brown will erect residence; frame; cost \$6000.

Mo., Kansas City.—J. F. May will erect stucco dwelling; cost \$6500.

Mo., Kansas City.—J. E. Eldridge will erect two dwellings; frame; cost \$4000.

Mo., Kansas City.—Corbin Building Co. will erect residence; stucco; cost \$7000.

Mo., Kansas City.—Nick Kaiser will erect dwelling; stone veneer; cost \$3500.

Mo., Kansas City.—J. A. Butler will erect residence; cost \$10,000.

Mo., Kansas City.—N. W. Butler will erect residence to cost \$12,000.

Mo., Kansas City.—Behrens & Quaintance will erect dwelling; stucco; cost \$5000.

Mo., Kansas City.—C. H. Hyatt will erect brick veneer duplex dwelling; cost \$7000.

Mo., Kansas City.—Frederick Baker will erect two stucco dwellings at 3007-3009 Highland St.; cost \$6000.

Mo., St. Louis.—Jesse Morris Real Estate & Investment Co. will erect two two-story dwellings at 4011-4015 Connecticut St., cost \$6000, and two-story dwelling at 2364 Pope St., cost \$2250.

Tenn., Knoxville.—State Street Methodist Episcopal Church South, Rev. J. A. Baylor, pastor, will erect parsonage.

Tenn., Nashville.—Mrs. A. G. Warren will erect residence; cost \$4000.

Tex., Denison.—St. Luke's Episcopal Church, Rev. J. T. Oliver Curran, rector, Terrell, Tex., plans to erect rectory.

Tex., El Paso.—Mrs. Alice G. Merchant will erect residence; two stories; brick; cost \$7100.

Tex., El Paso.—Cassidy & Davidson will erect residence; six rooms; California bungalow type; hardwood floors; cost \$4000.

Va., Norfolk.—Mrs. J. S. Bell opened bids to erect residence; Dear & Totty, Norfolk, are lowest bidders at \$7300 for construction, exclusive of masonry and brickwork; total cost about \$10,500; plans by Ferguson, Calow & Taylor. (Recently noted.)

W. Va., Wheeling.—John Mack McCutcheon is having plans prepared by George H. Dieringer, Wheeling, for dwelling in Loring Pl.; seven rooms, pantry, baths, etc.; front and rear porches; hardwood interior finish; stained shingle mansard roof.

W. Va., Wheeling.—August E. Nay is having plans prepared by George H. Dieringer, Wheeling, for residence; 11 rooms, pantry, baths, etc.; hardwood interior finish; walls decorated in art marble cement; exterior of brick to second floor; shingles above; slate roof; will also erect fireproof garage,

equipped with turntable and underground tank.

### GOVERNMENT AND STATE

Ark., Paragould—Postoffice.—Treasury Department, Office of Supervising Architect, Washington, D. C. Proposals received at this office until 3 P. M. December 19, and then opened, for construction, complete (including plumbing, gaspiping, heating apparatus, electric conduit and wiring and interior lighting fixtures), of one-story-and-basement non-fireproof building of about 3000 square feet ground area, with brick face and stone and terra-cotta trimmings for the U. S. postoffice at Paragould, Ark., in accordance with drawings and specifications, copies of which may be obtained from the custodian of site at Paragould, Ark., or at this office, at the discretion of Supervising Architect, James Knox Taylor.

Fla., Miami—Postoffice.—Treasury Department, Office of Supervising Architect, Washington, D. C. Proposals received in this office until 3 P. M. December 27, and then opened, for construction, complete (including plumbing, gaspiping, heating apparatus, electric conduits, wiring and interior lighting fixtures), of postoffice, courthouse and customhouse at Miami; three stories, with basement and unfinished attic; ground area of about 7300 square feet; fireproof construction; stone facing; tile and copper roof; drawings and specifications may be obtained from custodian of site at Miami, Fla., or at this office, at discretion of Supervising Architect, James Knox Taylor.

Fla., Miami.—Federal.—Treasury Department, James Knox Taylor, Supervising Architect, Washington, D. C., will receive bids until December 27 for erection, including plumbing, gaspiping, heating apparatus, electric conduits, wiring and interior lighting fixtures, of proposed Federal building; three stories and basement; unfinished attic; ground area of about 7300 square feet; fireproof; stone facing; tile and copper roof.

La., New Orleans—Barracks, etc.—R. L. Carmichael, Major and Quartermaster, U. S. A., 416 Hibernia Bank Bldg., will receive bids in triplicate until 11 A. M. December 11 to erect barrack, lavatory and mess hall complete with plumbing, electric wiring and heating at Jackson Barracks; plans and specifications on deposit of certified check for \$10.

Tex., Carlsbad—Sanatorium.—Anti-Tuberculosis Commission of Texas, Austin, Tex., will receive bids until noon November 21 (extended date) to erect tuberculosis sanatorium at Carlsbad; to include administration, subsistence, power and equipment buildings, infirmary, barns and lean-tos; certified check for \$1000; plans and specifications at office of commission at Austin, Tex.; Concho Land Co., San Angelo, Tex., and Henry T. Phelps, architect, San Antonio, Tex., or may be had on deposit of \$25; special blank forms from architect; Ralph Steiner, M.D., chairman of Commission. (Recently noted.)

Va., Front Royal—Stable.—Capt. V. H. Conrad, Jr., Quartermaster, United States of America, Remount Depot, Front Royal, will receive bids until November 20 to erect veterinary stable at said depot.

### HOTELS

Fla., Barberville.—Dowling & Tarver of Jacksonville, Fla., will erect hotel and clubhouse. (See "Land Development.")

Fla., Tarpon Springs.—Charles H. Brown, John K. Cheyney and C. H. Lutz are interested in erection of hotel; fireproof; 50 rooms; cost \$40,000 to \$50,000.

Ga., Augusta.—L. A. Bellomy, Irish-American Bank Bldg., Augusta, is preparing plans for hotel; 75x225 feet; five stories; brick. (See "Machinery Wanted.")

La., New Orleans.—A. Monteleone is having plans prepared by Toledano & Wogan, New Orleans, for addition to Monteleone Hotel, to replace old Commercial Hotel; 300 rooms, making total of 450 rooms, exclusive of dining-rooms, lobbies, ballroom, billiard-rooms, etc.; 12 stories; replica of present structure; roof garden; purchased and will install \$12,000 worth of laundry machinery; ice-water in all rooms conveyed through metal tubing hidden under floors from refrigerating plant in basement; patent electric informers for notifying guests of mail or messages in office; cost of improvements about \$1,500,000.

Miss., Laurel.—A. J. Nelson will erect three-story brick annex to New Laurel Hotel previously noted purchased; annex to contain about 50 bedrooms, office, etc.; steam heat and water-supply equipment.

Mo., Kansas City.—A. E. Mosler is having plans prepared by Geo. Carman, 509 Reliance

Bldg., Kansas City, for proposed hotel; seven stories and basement; 123x88 feet; fireproof construction; steam heat; electric lighting; to contain 62 suites; 70 bathrooms, cafe, kitchen, dining-room and sleeping-rooms for servants, billiard-room, etc.; cost about \$100,000; will probably not award contract before May.

Mo., Kansas City.—Muehlebach estate, George Muehlebach and Carl Muehlebach, of Muehlebach Brewing Co., purchased site at Baltimore Ave. and 12th St., 158x138 feet, and are reported as considering erection of hotel or office building.

N. C., Greensboro.—W. N. Coler & Co. of New York are reported as planning to erect tourist hotel to cost at least \$200,000.

Okla., Boudinot's Bluff (not a postoffice).—Charles N. Haskell, Muskogee, Okla., is reported as contemplating erection of summer hotel.

Tex., Waco.—W. R. Orman, 2000 S. 4th St., has plans by William Brooks for annex to Hotel Bristol, including storerooms; 80x155 feet; five stories; gas heat; electric lighting; cost \$26,000; construction by owner. (Recently noted.)

### MISCELLANEOUS

Ala., Bessemer—Hospital.—Woodward Iron Co., Woodward, Ala., is reported to erect emergency hospital at its furnace; will be under direction of Dr. Miles A. Watkins, general surgeon for company.

Ala., Decatur—Hospital.—Dr. Richard A. Powell of Richmond, Va., is reported as contemplating erection of hospital.

Fla., Barberville.—Clubhouse.—Dowling & Tarver, Jacksonville, Fla., will erect hotel and clubhouse. (See "Land Development.")

Ga., Moultrie.—Clubhouse.—George H. Kline, Howard Ashburn, William P. Vereen and P. D. Horkan are interested in organization of country club, and plan to erect clubhouse.

Ky., Lexington—Dairy Depot.—C. H. Berryman, manager J. B. Haggin's Elmendorf Farm, states that plans for dairy depot are not definitely determined; building operation will not begin for several weeks. (Mr. Haggin recently reported to erect dairy depot.)

La., New Orleans—Home.—Sisters of Good Shepherd will erect proposed Magdalenes' Home; three stories; 40 cellrooms, refectory, kitchen, bathrooms, sewing-rooms, infirmary, etc.; cost about \$50,000.

La., New Orleans—Hospital.—Illinois Central Railway, A. S. Baldwin, chief engineer, Chicago, Ill., will, it is reported, establish hospital in Magnolia between Perillat and Cypress Sts.

Mo., Kansas City—Stable.—Jacob Shapiro will erect stable; brick; cost \$3000.

Mo., St. Louis—Stable, Shipping-room, etc. American Bakery Co. will expend about \$35,000 for improvements on 16th and 17th Sts., near O'Fallon St., including two-story stable to cost \$27,000; one-story shipping-room to cost \$6000, and one-story blacksmith shop to cost \$2000.

N. C., Asheville—Hospital.—Board of Managers of Mission Hospital plans to erect \$75,000 hospital building; to be erected in three sections, the first to be begun in early spring and cost \$25,000; fireproof construction; J. E. Rankin, J. C. Pritchard and others are interested.

N. C., Wilmington—Clubhouse.—Cape Fear Country Club, C. E. Taylor, Jr., president, plans to erect clubhouse.

S. C., Charleston—Race Track.—Charleston Fair and Racing Association incorporated with \$250,000 capital stock; L. A. Cassidy, secretary, 219 Meeting St.; will construct race track at West's; one-mile race course proper, 100 feet wide, with slope three feet from outside; ditch dug along entire side inside of course to provide drainage facilities; top of track will be mixture of sand and clay rolled with heavy steam rollers; all buildings of wood construction; grandstand 600 feet long, to seat 6000 people; stables around entire course except near grandstand; will accommodate about 800 horses; each stable to house 30 horses; stalls 8x10 feet; attendants' quarters also in stable buildings; restaurants, lunch counters, betting offices, etc., under grandstand; general offices and headquarters of officers near grandstand; paddock 150 feet long and 60 feet high; 16 stalls in center for saddling horses, etc.; sidings and chutes for handling stock cars and unloading horses; reported Consolidated Co. will construct spur track from Meeting St. road line. (Recently noted.)

Tex., Temple—Hospital.—King's Daughters will let contract shortly to erect hospital annex; cost \$40,000. (Previously noted.)

W. Va., Princeton—Fair Buildings.—Mercer

County Fair Association purchased 20 acres of land; will probably construct racetrack, stables and fair buildings. (Recently noted incorporated with \$25,000 capital stock by H. W. Crockett and others.)

### RAILWAY STATIONS

Ga., Columbus.—Central of Georgia Railroad, C. K. Lawrence, chief engineer, Savannah, Ga., has plans by G. M. Boley, Savannah, Ga., for passenger depot; 16x43 feet; ordinary construction; brick; cost \$2500; date of opening bids not set. (Recently noted.)

Mo., Joplin.—Joplin & Pittsburgh Railway, W. A. Satterlee, general manager, Pittsburg, Kan., will, it is reported, erect freight house.

Tenn., Clinch.—Southern Railway, B. Herrmann, chief engineer, 1309 Pennsylvania Ave. N. W., Washington, D. C., is reported as planning to erect depot.

### SCHOOLS

Ala., Montevallo.—Alabama Girls' Polytechnic Institute selected W. T. Warren, Birmingham, Ala., official architect for buildings to be erected in next two years; will probably erect academic halls and library first; State Legislature appropriated \$300,000 for enlarging present building capacities. (Previously noted.)

Ga., Barnesville.—Gordon Institute has plans by E. C. Wachendorf, 826 Empire Bldg., Atlanta, Ga., for academic buildings; two stories and basement; architect will receive bids until November 22 on face brick construction and alternate bids on reinforced concrete with hollow terra-cotta walls and partitions; composition roof.

Ga., Thomasville.—City will vote on \$50,000 bond issue to erect school; E. R. Jerger, Lee Neel and J. F. Evans, committee. (Recently noted.)

Ga., Quitman.—City will vote January 16 on \$40,000 bond issue to erect and equip school. Address The Mayor. (Recently noted.)

Ky., Paducah.—City defeated \$75,000 bond issue for school improvements; J. A. Carnegie, superintendent of schools. (Previously noted.)

La., Covington.—St. Tammany Parish School Board plans to erect school; T. M. Burns, J. B. Lancaster, J. F. Piggott and others, committee.

La., Independence.—J. H. Strickland, chairman of building committee, will receive bids until November 24 to erect two-story brick school; certified check for \$200; plans and specifications at Builders' Exchange, New Orleans, La.; office of Wm. T. Nolan, architect, 310 Hennen Bldg., New Orleans; office of Mr. Strickland, Independence; office of Parish Superintendent of Education, Amite, La.; E. C. Peters, secretary, building committee.

La., Lake Charles.—City will vote December 12 on \$124,000 bond issue to erect high-school building. Address The Mayor. (City recently noted as preparing to expend \$150,000 to erect schools.)

La., Lockport.—City contemplates voting on tax to erect high school to cost \$25,000; W. S. Lafargue, Lafourche parish school superintendent, Thibodaux, La.

Miss., Vicksburg.—City will vote December 12 on \$50,000 bond issue to erect high-school building. Address The Mayor.

Mo., St. Louis.—Board of Education purchased site to erect proposed Clifton Heights School.

N. C., Charlotte.—School Commissioners accepted plans by Hook & Rogers, Charlotte, for \$20,000 schools in Ward 1 and Belmont, and repairs to South school to cost \$10,000; also accepted plans by Hunter & Gordon, Charlotte, for \$20,000 building in Ward 4 and proposed Seversville schools, to cost \$27,500; will erect proposed colored school in Fairview and erect \$10,000 school in Elizabeth Heights. (Recently noted.)

Okl., Ardmore.—School Board will repair burned school; cost about \$6000. (Recently reported burned.)

Okl., Tulsa.—School Board plans election to vote on \$30,000 bond issue for site and erection of school in Kendall College Addition and bond issue for either \$200,000, \$250,000 or \$300,000 for site and erection of high-school building; R. E. Downing, superintendent of schools. (School Board previously noted as contemplating erection of school in Kendall Addition.)

S. C., Chester.—Parker Cotton Mills, Greenville, S. C., will erect school and church for operatives of Wylie Mills.

S. C., Columbia.—University of South Carolina, John P. Thomas, Jr., dean, plans to

erect law building on campus to cost about \$40,000.

S. C., Ehrhardt.—Trustees of School District No. 22 will open bids about December 1 to erect proposed school; two stories and basement; ordinary construction; hot-air heat; plans by G. Lloyd Preacher, Augusta, Ga.

W. Va., Union.—Union Independent School District will vote on \$25,000 bond issue for school improvements. Address District School Trustees.

### STORES

Ala., Brewton.—Luttrell Hardware Co. will erect three-story store building.

Ala., Tuscaloosa.—G. B. Wright will rebuild store recently reported burned.

Fla., Tampa.—Hutchinson Drug Co. will remodel drug store, etc. (See "Miscellaneous Factories.")

Ga., Atlanta.—Charles P. Glover Realty Co., 6 Auburn Ave., is having plans prepared by Walker & Chase, Candler Bldg., Atlanta, Ga., to remodel store at 40 Peachtree St.; will install new front of cement, stucco and tile; two stores on first floor and offices on second floor.

Ky., Louisville.—H. J. Gutman & Co., 419 Fourth Ave., are having plans prepared to remodel store building at 4th and Walnut Sts.; will install additional entrance, passenger elevators, etc.; will have 50,000 square feet floor space; cost of improvements about \$25,000.

Md., Baltimore.—Goodyear Rubber Tire Co. of Akron, O., will erect building at 100-102-104 Mt. Royal Ave.

Md., Baltimore.—French Glove Co. of Baltimore, 307 W. Lexington St., leased building at 118 W. Lexington St. and will remodel, enlarge and install plate-glass front, edged with copper.

Md., Hagerstown.—Rudy & Meredith have plans by Mack & Kountz, Hagerstown, for store and apartment building; five stories; will receive subcontracts. (See "Apartments.")

Mo., Kansas City.—R. T. Swofford will erect store and moving-picture theater at 2515-17-19 Independence Blvd.; brick; cost \$11,000.

Mo., Kansas City.—W. H. Otto will erect store building; brick; cost \$6500.

Mo., St. Louis.—Marx & Jones leased building at 311 N. 8th St., and will expend \$35,000 for improvements.

N. C., Wilmington.—John D. Bellamy will erect proposed business building; three stories; brick; cost \$10,000; construction under supervision of H. E. Bonitz, architect, Wilmington.

S. C., Laurens.—Dr. Clifton Jones is having plans prepared for rebuilding store building; 25x66 feet; two stories; brick; electric lighting; cost \$4000 to \$5000. Recently reported burned.

S. C., Sharon.—W. L. Hill will erect store building; three stories.

Tex., Beeville.—V. Kohler will erect business building; brick; 33x130 feet; one story and basement.

Tex., Beeville.—L. S. Lightburn of Rockport, Tex., will erect three one-story brick

buildings with total frontage of 75 feet; depth 130 feet.

Tex., Belmont.—Melvin Howard will erect store building.

Tex., Conroe.—J. Wahrenberger Company will not at present erect business building. (Recently reported.)

Tex., Dallas.—W. L. Spence will erect business building; three stories.

Tex., Dallas.—W. A. Fraser is having plans prepared by Lang & Wittichell, Dallas, for store building; two or three stories; 60x170 feet; semi-fireproof construction; heating, lighting, etc., not determined; cost \$30,000. (Recently noted.)

Tex., Dallas.—G. Wildy Gibbs is having plans prepared by Lang & Wittichell, 623 Wilson Bldg., Dallas, for proposed store building; three or four stories; 75x150 feet; fireproof; electric elevators; construction to permit erection of additional stories.

Tex., Lubbock.—Lubbock Mercantile Co. will open bids in 10 days to rebuild store building; ordinary and mill construction; 75x115 feet; brick; steam heat; electric lighting; cost \$10,000. (Recently reported burned.)

Tex., Waco.—W. R. Orman, 2000 S. 4th St., will erect annex to Hotel Bristol containing storerooms; cost \$26,000. (See "Hotels.")

Va., Lynchburg.—R. G. Robertson will open bids about February 1 to erect stores and warehouse. (See "Warehouses.")

Va., Richmond.—M. Rosenbloom will expend \$4000 for improvements to store at 1430-32 E. Main St.

### THEATERS

Ky., Pineville.—Pineville Building & Amusement Co. will open bids at once to erect theater and office building; 68x125 feet; semi-fireproof construction; steam heat; electric lighting; cost \$14,000; seating capacity 700. (Recently reported incorporated with \$15,000 capital stock.)

Mo., Kansas City.—George B. Hanson will erect brick moving-picture theater; cost \$4000.

Mo., Kansas City.—R. T. Swofford will erect store and theater building. (See "Stores.")

### WAREHOUSES

Ky., Louisville.—Belmont Distilling Co. will erect warehouse; eight stories; brick; cost \$15,000.

Mo., St. Louis.—Tyler Estate will erect warehouse at 2612-14 N. Broadway; four stories; 40x150 feet; cost \$15,000.

N. C., Greensboro.—Townsend Buggy Co. will erect warehouse; cost \$3000.

N. C., Kinston.—Farmers' Union Warehouse Co. incorporated with \$50,000 capital stock by Z. Edwards, John F. Harper, Lemuel Taylor and others.

S. C., Walterboro.—Farmers' Mercantile & Warehouse Co. plans erection of warehouse; construction will not begin before spring. Recently noted incorporated with \$25,000 capital stock by H. H. Bentz and others.

Va., Lynchburg.—R. G. Robertson will open bids about February 1 to erect warehouse and stores; 155x264 feet; brick; cost \$60,000; plans by McLaughlin & Johnson, Lynchburg.

house committee awarded contract at \$3675 to erect almshouse. (Recently noted.)

### CHURCHES

Va., Richmond.—St. James Episcopal Church awarded contract to John T. Wilson Company, Inc., Richmond, to erect church and Sunday-school; Grecian type; massive stone columns surmounted by steel frame spire 90 feet above roof; main auditorium to seat 1200 people; small gallery over entrance; brick, steel and concrete construction; stone trimmings; practically fireproof; cost \$83,000; plans by Nolan & Baskerville, Richmond. (Recently noted.)

### COURTHOUSES

Fla., Quincy.—Gadsden County Commissioners awarded contract to L. W. Cooper, Quincy, to superintend construction of courthouse; 60x125 feet; two stories; fireproof; steam heat; electric lights; cost about \$80,000; plans by Hentz & Reld, Atlanta, Ga. (Recently noted.)

### DWELLINGS

Md., Baltimore.—David M. Newbold, 334 Equitable Bldg., is having plans prepared by Wm. H. Hildebrand, 8 Pulaski St., Baltimore, for six dwellings on Pennsylvania Ave. between Fourth and Fifth Aves.; two stories; iron-spot brick; marble trimmings; 14x52 feet; cost \$12,000; construction also by Mr. Hildebrand.

Md., Baltimore.—Leo Chenoweth, 1439 Laurens St., has plans by and awarded contract to E. E. Barber to erect store and dwelling. (See "Stores.")

S. C., Rock Hill.—J. Barron Steele awarded contract through architect, J. S. Starr, Rock Hill, to erect two-story dwelling.

Va., Norfolk.—Mrs. F. K. Goehring awarded contract to E. K. Goehring, Norfolk, to erect residence; frame; cost \$3500.

Va., Norfolk.—W. K. Swann awarded contract to J. H. Pierce, Norfolk, to erect residence; brick; cost \$5500.

Va., Richmond.—H. J. Nichols awarded contract to W. H. Richardson, Richmond, to erect proposed dwelling; 44 feet 9 inches by 51 feet; ordinary construction; latrobes; gas and electric lighting; cost \$7000; plans by A. F. Hunt, Richmond.

### GOVERNMENT AND STATE

Va., Lexington.—Postoffice.—Treasury Department, James Knox Taylor, supervising architect, Washington, D. C., awarded contract at \$44,753 to George Leigh & Bro., Louisa, Va., to erect postoffice building; one story and basement; non-fireproof brick and stone facing; about 4200 square feet area. (Previously noted.)

### HOTELS

Ky., Horse Cave.—Clarence Owens has contract to erect proposed hotel; brick; two stories and basement; 27 rooms; 80x82 feet; foundation under way.

S. C., Greenville.—W. A. Wallace and associates awarded contract to W. M. Jordan, Greenville, to erect proposed hotel on W. Washington St.; seven stories; 90 bedrooms; tapestry brick; hot and cold water and telephone in each room; lobby finished in art marble and tile floor in Greek design; cold-storage department; electric passenger elevators; 41x83 feet; steam heat; electric lights; cost \$50,000; cost of furnishings, \$15,000; also awarded steel contract to Phoenix Iron Co., Phoenixville, Pa.; plans by F. H. & J. G. Cunningham, Greenville.

S. C., Walterboro.—R. H. Wichman awarded contract to George F. Clayton, Atlanta, Ga., to erect hotel, store and bank building; 30 rooms; 159x102 feet; ordinary construction; brick; steam heat; cost about \$20,000; plans by J. D. Newcomer, Charleston, S. C. (Previously noted.)

Tex., Rockport.—Gulf Coast Immigration Co. awarded contract to R. S. Cobb, Rockport, to erect hotel at Rocky Point; brick; fireproof; cost \$50,000. (Recently noted.)

Va., Massanutta Springs (not a postoffice). W. M. Bucher & Son, Harrisonburg, Va., have contract to erect proposed hotel; four stories.

### MISCELLANEOUS

Tex., Galveston.—Shed.—H. Kemper awarded contract to Jansen & Zempfer, Galveston, to erect cotton concentration shed on Postoffice St. between 31st and 32d Sts.; 100x300 feet; construction begun.

### SCHOOLS

Ky., Athens.—Fayette County Board of Education awarded contract at \$7500 to

## BUILDING CONTRACTS AWARDED

### APARTMENT-HOUSES

Fla., Jacksonville.—Hedrick Investment Co. awarded contract to erect apartment and store building. (See "Stores.")

Ga., Savannah.—Mrs. F. M. Cornwell awarded contract to Otto & Wilson, Savannah, to erect proposed Chippewa Apartments at Charlton and Lincoln Sts.; three stories; sleeping porches; colonial style front with large columns.

Va., Norfolk.—Edward Spalding awarded contract to I. C. Roberts, Norfolk, to erect eight brick tenements; cost \$7000.

### ASSOCIATION AND FRATERNAL

Tex., Floydada.—Ancient Free and Accepted Masons, S. E. Duncan, secretary, will expend \$9000 to erect lodge and store building; 30x100 feet; addition 20x100 feet; brick; contract recently noted awarded.

### BANK AND OFFICE

Fla., Tampa.—Citizens' Bank & Trust Co. awarded contracts for erection of building as follows: Steel construction, Morava Construction Co. of Chicago; terra-cotta, Northwest Terra-Cotta Co.; foundations, masonry and carpenter work, the Movar Company, both of Chicago, Ill.; glass, Pittsburgh (Pa.) Plate Glass Co.; elevators, Otis Elevator Co.,

17 Battery Pl., New York; interior marble and mosaic work, D'Agostin & Angelini of Montgomery, Ala.; electrical work, Pierce Bros.; plumbing, R. T. Joughin, both of Tampa; refrigerating apparatus, York Manufacturing Co., York, Pa.; ornamental iron work, Union Foundry Co. of Chicago, Ill.; plans by Francis J. Kennard, Tampa, and J. C. Llewellyn, Chicago, Ill., who will also supervise construction, call for structure 78x100 feet; fireproof; 10 stories; steel construction; foundation 30 feet below surface of surrounding ground; cost more than \$350,000. (Recently noted.)

Ga., Lyons.—Farmers and Merchants Bank awarded contract to erect bank building.

Okl., Ada.—Ada Building & Investment Co. awarded contract to erect office and store building. (See "Stores.")

S. C., Walterboro.—R. H. Wichman awarded contract to George F. Clayton, Atlanta, Ga., to erect store, bank and hotel building. (See "Hotels.")

Tex., Dallas.—Commonwealth National Bank awarded contract to Texas Building Co., Fort Worth, Tex., to erect bank and office building; 12 stories; fireproof construction; steel; 53x100 feet; traction type elevator; cost about \$325,000; plans by Lang & Wittichell, 623 Wilson Bldg., Dallas. (Previously noted.)

Va., Fredericksburg.—Almshouse.—Alms-



Coombs Lumber Co., Lexington, Ky., to erect school; Colonial style; one story; three rooms; brick. (Recently noted.)

La., New Orleans.—City awarded contract at \$5670 to George J. Glover, New Orleans, for additional work on Sophie B. Wright Girls' High School.

Tex., Marfa.—Presidio county will expend \$12,000 for improvements to high-school building; contract recently noted awarded to J. A. Pitts of Marfa.

## STORES

Ark., Little Rock.—J. W. Dickinson awarded contract to W. D. Holtzman, Little Rock, to erect store building; one story; brick; cost \$4000.

Fla., Jacksonville.—Hedrick Investment Co. awarded contract to E. E. Hammell, 431 W. Beaver St., Jacksonville, to erect store and apartment building; 50x71 feet; brick; electric lighting; cost \$10,000. (Recently noted under "Dwellings.")

Ga., Atlanta.—Edward H. Inman will expend \$75,000 to erect department store for Davidson-Paxon-Stokes Company; 80x100 feet; eight stories; reinforced concrete construction; plans by W. T. Downing, Atlanta; present three-story-and-basement building will be remodeled and floor space increased from time to time by completion of succeeding new portions; contract recently noted awarded to Industrial Engineering Co., New York, and Grant Bldg., Atlanta.

Md., Baltimore.—Leo Chenoweth, 1439 Laurens St., has plans by and awarded contract to E. E. Barber to erect store and dwelling at Calhoun and Laurens Sts.; two stories; brick.

Miss., Tylertown.—H. H. Simmons awarded contract to erect business building; two stories; brick.

Okla., Ada.—Ada Building & Investment Co. awarded contract to W. M. Cooper, Ada, to erect store and office building; 50x140 feet; two stories and basement; rear part 40x50 feet; semi-fireproof construction; electric lighting; cost \$11,000; plans by E. J. Peters, Shawnee, Okla. (Recently noted.)

S. C., Rock Hill.—J. Henry Toole awarded contract through architect, J. S. Starr, Rock Hill, to erect business building containing four storerooms.

S. C., Walterboro.—R. H. Wichman awarded contract to George F. Clayton, Atlanta, Ga., to erect hotel, store and office building. (See "Hotels.")

Tex., Eagle Lake.—J. Nathan awarded contract to erect business building; one story; brick; cost \$5000.

Tex., Yoakum.—J. H. Tucker, Houston, Tex., awarded contract to erect proposed business building; brick.

Va., Houston.—J. W. Johnson and W. H. Edmunds awarded contract to John Hamilton, Houston, to erect store building.

## WAREHOUSES

La., New Orleans.—Woodward, Wight & Co. awarded contract to Murphy & Michel, New Orleans, to erect warehouse; two sections; one-story portion for delivery; main structure four stories; cost about \$200,000; brick and steel; 200x250 feet; plans by Emil Well, New Orleans. (Previously noted.)

Tenn., Memphis.—W. T. Rawleigh Medical Co. awarded contract to William P. McEvey & Co., Chicago, Ill., to erect warehouse; 62x184 feet; four stories and basement; reinforced concrete; low pressure steam heat; electric lighting; electric elevator; cost \$50,000; plans by Hanker & Cairns, 528 Scimitar Bldg., Memphis. (Recently noted.)

# RAILROAD CONSTRUCTION

## RAILWAYS

Ala., Birmingham.—The Lee Street Terminal Co. has been granted a franchise to make an extension of several blocks.

Ala., Milledge.—The Birmingham & South-eastern Railway contemplates building about 15 miles of line from Milledge to Eclectic, Ala., and right of way is being secured. W. M. Blount is president at Union Springs, Ala.

Ark., Marianna.—The Missouri Pacific is pushing construction on the Marianna-Memphis cut-off from Marianna to Bridge Junction, 46 miles, and it is expected to be completed in about two months.

D. C., Washington.—R. E. L. Yellott of Yellott & Stubblefield, northeast corner of 14th and U Sts. N. W., Washington, D. C., says that an electric car line will be built through the property of the Chevy Chase & Great Falls Land Co., which has office in the Hendricks Bldg.; H. Bradley Davidson, president; Eldridge E. Jordan, vice-president; J. S. Henry, treasurer; A. R. Thompson, secretary. The line, according to previous report, will be about 10 miles long.

Ga., Albany.—The Central of Georgia Railway says that the Albany Terminal Co. has been formed but organization is not complete. It is to build track in connection with terminal in Albany.

Ga., Athens.—Engineers are reported surveying for a railroad from Athens via Smithsonia, Lexington and Sandy Cross to Washington, Ga. G. J. Baldwin, Savannah, Ga., president of the Gainesville Midland Railroad, is said to be interested.

Ga., Lafayette.—E. F. Blomeyer, vice-president and general manager of the Tennessee, Alabama & Georgia Railroad Co., Chattanooga, Tenn., says that the people of Lafayette, Ga., have asked for a branch line and the company has made them a proposition. The matter is not yet decided. The distance, it is reported, would be about 2½ miles.

Ga., Thomasville.—The Upchurch Lumber Co. of Rayford, N. C., proposes to build a railroad, says a dispatch, which will connect Thomasville with Tallahassee, Fla., the purpose being to open up timber lands recently purchased from the Valdosta Land & Timber Co.

Ga., Waycross.—The Waycross & Western Railway Co., capital \$300,000, will begin survey immediately. It is reported, for its proposed line, 70 miles long, from Waycross to Milltown, Habersham, Adel and other Georgia points. This will include a partly completed line out of Waycross toward Nashville. Construction is expected to start within 30 days. It will connect with the Georgia Southern & Florida Railway. Among those interested are Alexander Sessions of Waycross, F. B. Sirmans of Sirmans, M. C. Lee, J. L. Byrd,

R. L. Patten, J. H. Bostwick and others of Milltown, Ga. Mr. Patten says the company is not permanently organized, but will be in about 30 days. Date for bids will be set soon. The proposed route is through level country.

Ky., Warren.—The Cumberland Railroad Co. is reported extending its line up Brush Creek toward Jellico, Tenn. B. C. Milner is general manager and chief engineer at Warren, Ky.

La., New Iberia.—The Iberia, St. Mary & Eastern Railroad has let contract for drawbridge and trestle approach to the Wisconsin Bridge Co. and the New York Foundation Co. The company will build 60 miles of railroad from Lafayette to Morgan City, La. I. W. Troxel is chief engineer at New Iberia, La.

Md., Baltimore.—The Baltimore & Pennsylvania Railway Co., which proposes to build an electric railway from Belterstown, on a line of the United Railways & Electric Co. of Baltimore, 16 miles from the city, to Hanover, Pa., 26 miles from Belterstown, has filed a mortgage to secure \$300,000 of 5 per cent. bonds, which are said to be taken by Philadelphia capitalists for the construction. John Pierce Bruns, 25 Old Builders' Exchange Bldg., Baltimore, and others are interested. Route is via Hampstead and Manchester. The Maryland Construction & Development Co., headed by Howard Tebbis of Baltimore, is reported organized to build the road.

Mo., Kansas City.—Construction is reported progressing rapidly on the Kansas City, Clay County & Excelsior Springs Electric Railway, the L. J. Smith Construction Co. having the grading contract to St. Joseph. Bernard Corrigan has the contract from there to Excelsior Springs.

N. C., Danbury.—The North Carolina Traction Co., says a report, contemplates building a line from Rock Hill to connect with the Seaboard Air Line at Catawba Junction, about eight miles. The W. L. Law Company, Rock Hill, S. C., is mentioned as chief engineer.

N. C., Elkin.—The Elkin & Alleghany Railroad has completed grade from Elkin to the foot of the Blue Ridge, and 16 miles more are to be built to Sparta via Roaring Gap.

N. C., Greensboro.—The Guilford County Commissioners have called an election for December 11 in High Point, Summer, Friendship, Gilmer and Oak Ridge townships to vote on a bond issue to aid the contemplated extension of the Randolph & Cumberland Railway to connect Carthage, Asheboro, High Point and Winston-Salem. It may connect also at Cameron with the Seaboard Air Line. D. A. McDonald is president of the company at Carthage, N. C.

Okla., Muskogee.—The People's Interurban Railway Co., of which Ex-Gov. F. N. Haskell is president, is reported contemplating an extension from Fort Gibson to Tahlequah, 23 miles, a bonus to be granted by Tahlequah. Fort Gibson is 10 miles from Muskogee.

Okla., Woodward.—The Wichita Falls & Northwestern Railway is reported to have laid two miles of track out of Woodward, and will, it is expected, operate through to Fort Supply by December 1.

S. C., Florence.—The South Carolina Western Railway is reported to have stopped grading on the extension from Florence to Allisons Landing, 30 miles, pending completion of the bridge over the Pee Dee River, which will be 1½ miles long. Construction on it is proceeding.

Tenn., Chattanooga.—The Chattanooga, Rome & Atlanta Railway Co., capital \$100,000, has applied for charter to build an interurban railway from Chattanooga into Georgia and reaching Fort Oglethorpe, Rome and other points on to Atlanta, about 135 miles. A charter will also be asked in Georgia. John H. Hill and associates are interested, the incorporators being John H. Hill, Chas. R. R. Michael O'Grady, John O. Hibbets and S. W. Divine. The company is to utilize Mr. Divine's franchise through Chickamauga Park.

Tenn., Chattanooga.—The Queen & Crescent Route, according to a report quoting H. Baker, general manager, will double-track the entire line between Chattanooga and Cincinnati, part of which is done. C. Dougherty is chief engineer at Cincinnati, O.

Tenn., Jefferson City.—The Southern Railway is reported building a branch from a point several miles east of Knoxville to Pandridge, Tenn. W. H. Wells is chief engineer of construction at Washington, D. C.

Tenn., Mount Pleasant.—R. G. Sparrow, secretary and treasurer of the Middle Tennessee Railroad, Columbia, Tenn., denies the report that the line will be extended from Leatherwood to Perryville. He also says that road is now completed from Franklin to Mount Pleasant, 46 miles, of which 38 miles are in operation. J. H. Carpenter is president, J. W. Howard vice-president, Mende Prierson general manager, John White chief engineer.

Tex., Beaumont.—The Beaumont, Waco & Northern Railway Co. is organized and filed charter to build a line from Beaumont to Waco, Tex., about 200 miles. This will include the railroad of the Keith Lumber Co. and the Miller-Vidor Lumber Co., and the work to be undertaken immediately will be the building of a link of 22 miles to connect them. J. G. Reeves of Beaumont is the principal promoter; capital \$75,000; incorporators, J. G. Reeves, J. F. Keith, C. S. Vidor, B. S. Woodhead, W. P. Hobbs, W. B. Dunlap, B. R. Norvell, John L. Keith, B. Deutscher of Beaumont, and Kilbourn Moore of Galveston. J. F. Keith is president; C. S. Vidor, vice-president between the two points named, 18

miles, and it appears that it will be part of the Fort Worth & Southwestern Railway, recently chartered to build from Fort Worth to Eagle Pass. J. H. Farr of Glen Rose is president.

Tex., Glen Rose.—Grading is reported complete on the Glen Rose & Walnut Springs president and treasurer; J. G. Reeves, vice-president and general manager; B. S. Woodhead, secretary. Other directors are Messrs. Hobbs, Norvell, Moore and J. L. Keith.

Tex., Tioga.—The Tioga Traction Co. is formed by local business men to build an interurban railway from McKinney to Tioga and possibly to Gainesville, Tex.; capital \$600,000. The Tioga Commercial Club may be able to give information.

Tex., Waxahachie.—The extension of the Northern Texas Traction Co. under construction from Dallas to Waxahachie is to be continued 13 miles further to Ennis, Tex., according to a late report. Mark Lowd, Dallas, Tex., is manager for the Stone & Webster Engineering Corporation, which is building the line.

Va., Richmond.—The International & Great Northern Corporation has been chartered, with headquarters at Buckhead, Va., with \$5,500,000 capital stock for the purpose. It is said, of holding control of railways and allied interests. Frank J. Gould of New York is president; George H. Taylor, also of New York, vice-president; Guy Phillips of Yonkers, N. Y., secretary and treasurer, other directors being George J. Gould, A. H. Cafe and Henry W. Anderson, the latter of Richmond.

W. Va., Fairmont.—The Fairmont & Clarksburg Traction Co. is reported contemplating extension of the Fairmont & Northern from Rivesville to Morgantown, about 18 miles. J. O. Watson is general manager at Fairmont, W. Va.

W. Va., Keyser.—The Twin Mountain & Potomac Railroad is reported to have begun tracklaying on its line from Keyser to Twin Mountain, 26 miles, on which much grade is already done.

## STREET RAILWAYS

Ala., Ragland.—Frank M. Morris is reported to have been granted a franchise for a street railway.

Ala., Tuscaloosa.—Franchise for an electric railway in Tuscaloosa has been granted to F. G. Blair and Henry B. Foster.

Fla., St. Augustine.—The St. John's Electric Co. contemplates an extension of about a mile below South Beach, according to a local report.

Ga., Macon.—The Macon Railway & Light Co. has let contract to the Hall-Parker Construction Co. to build the extension of the Vineville car line to the Idle Hour Country Club, three miles.

N. C., Charlotte.—The Charlotte Electric Railway Co. is reported about to begin survey for a line to Myers Park.

# MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

**Acid Phosphate Plant Equipment.**—Home Guano Co., Arthur Pelzer, president, Dothan, Ala., wants prices on engine, boilers, shafting, pulleys, pumps, motors, etc., for acid phosphate and guano plant.

**Art Glass.**—See "Plumbing, etc."

**Bag Machinery.**—Byrd Textile Machinery & Supply Co., Durham, N. C., wants to correspond with manufacturers of machinery to reclaim and rework second-hand bags.

**Bank Fixtures.**—See "Safe, etc."

**Boiler.**—See "Engine and Boiler."

**Boiler.**—W. V. Moore, 613 H St. N. W., Washington, D. C., wants steam-heating boiler of 1000 to 1200 feet radiation; second-hand preferred.

**Boilers.**—City of Fernandina, Fla., will receive specifications with bids at office of City Clerk until noon December 13 for two 100-horse-power return-tubular boilers, 125 pounds steam pressure; 66 inches by 16 feet; to be beam-suspended steel-cased type; usual rights reserved. For further information address G. L. Baltzell, City Clerk.

**Bridge Construction.**—Joint Committee

County Commissioners of New Hanover and Pender counties will receive bids until noon December 6 for furnishing material and construction of bridge across Northeast River at Castle Hayne, N. C.; steel structure 400 feet long, 18 feet wide; general plans and specifications on file with above committee; certified check \$2500; for plans and specifications address D. McEachern, chairman, Wilmington, N. C.

**Bridge Construction.**—Mobile County Commissioners' Court, Mobile, Ala., will receive bids until 10 A. M. November 20 for construction of steel bridge over Dog River on Moffat Rd.; plans and specifications for same to accompany bid; contractors requested to visit location.

**Bridge, etc.**—Proposals, endorsed "Proposals for Tide Bridge and Rebuilding Wharf," received at Bureau of Yards and Docks, Navy Department, Washington, until 11 A. M. December 2, and then opened, for tide bridge and rebuilding wharf at United States Naval Proving Grounds, Indian Head, Md. Plans and specifications can be obtained on application to bureau or to inspect-

tor of ordnance in charge United States Naval Proving Grounds, Indian Head, Md. R. C. Hollyday, Chief of Bureau.

**Bridge Construction.**—Sealed proposals received at office of Chas. R. Kennedy, comptroller, New Orleans, La., until 11 A. M. December 28 for erection of Strauss trunnion bascule bridge over Carondelet Walk Canal on axis of Hagan Ave., in accordance with plans and specifications on file in office of City Engineer; deposit of \$1000 with City Treasurer and his receipt or certified check enclosed with bid; bond 25 per cent. of contract price; City engineer will furnish bidders with proposal blank; no proposal considered unless submitted on such form. Bidders must have paid city license in order to have bids accepted; rights reserved.

**Building Materials, etc.**—The Dalworth Company, building department, Dalworth (Grand Prairie P. O.), Tex., wants catalogues and prices on building materials, etc., of interest to architectural and building department.

**Building Materials.**—See "Machine Tools, etc."

**Bulkhead Construction.**—Board of Public Works, D. B. McKay, chairman, Tampa, Fla., will receive bids until 2 P. M. November 21 for construction of concrete bulkhead at foot of Whiting St.; plans and specifications may be obtained from City Engineer.

**Carbon Bisulphide Plant, etc.**—Economy Selling Co., 57½ St. Francis St., Mobile, Ala., wants addresses of companies manufacturing and installing plants to manufacture carbon bisulphide and carbon tetrachloride.

**Cannery Equipment.**—H. C. Storm, Chase City, Va., F. D. No. 2, wants prices on equipment for small vegetable cannery.

**Contractors' Equipment, etc.**—W. A. Cannon Company, Box 982, El Paso, Tex., wants catalogues pertaining to materials and equipment for general and railroad contractors.

**Cotton Cloth.**—Radium Screen Co., 105 N. Main St., St. Louis, Mo., wants addresses of manufacturers of cotton cloth 120 to 150 inches wide.

**Dredge Bucket.**—J. H. Boyd & Bro., Chester, Va., wants second-hand one-yard orange-peel dredge bucket.

**Electric-light Plant.**—William S. Oppenheimer, 508 Franklin St., Tampa, Fla., wants catalogues, prices, etc., relative to installation of small plant for lighting, operating electric fans, etc.

**Electrical Machinery.**—See "Metal-working Machinery and Supplies."

**Embankment.**—W. T. Bond, chairman committee, 65 Madison Ave., Memphis, Tenn., will receive bids until 10 A. M. November 20 for construction of embankment along creek at Bartlett, Tenn.; details furnished on application to St. George Richardson, County Engineer, Memphis; certified check \$50.

**Engine and Boiler.**—W. M. Lyles Manufacturing Co., Crossville, Tenn., wants double-cylinder double-drum hoisting engine and boiler for logging.

**Engraving (Metal).**—H. L. Freeman, proprietor Southern Machine Works Co., 208 E. Commerce St., High Point, N. C., wants addresses of engravers (other than hand workers) to reproduce figures of quarter-sawn oak on large brass or copper rolls for transfer to soft-grained veneered lumber; not fine work; may be done by sand blast or other cheap process.

**Feed-mill Machinery.**—See "Grinding Machinery."

**Foundry Supplies.**—See "Metal-working Machinery, etc."

**Heaters.**—See "Boiler."

**Hotel Furniture.**—L. A. Bellomy, Irish-American Bank Bldg., Augusta, Ga., is receiving bids on furnishings for 130-room hotel.

**Grading.**—City of Barnesville, Ga., and Gordon Institute at Barnesville will let contract at once for grading drives and walks in park containing 16 acres.

**Gravel.**—See "Sand and Gravel."

**Grinding Machinery.**—W. A. Cannon Company, Box 982, El Paso, Tex., wants catalogues and prices on machinery to chop, cut or grind the sotol plant (native of Western plains) into a meal of consistency of cottonseed meal.

**Handles.**—Home Supply Co., second floor, Farmers' State Bank Bldg., Lindsborg, Kans., wants to correspond relative to placing order for manufacture of wooden handles and paddles (small) from poplar or similar wood.

**Hardware.**—See "Iron Hardware."

**Heating Plant.**—First Baptist Church, Rev. T. M. Calloway, chairman of building

committee, Fitzgerald, Ga., will receive bids November 28 for heating plant for \$30,000 church building.

**Hoisting Engine.**—John G. Duncan Company, 308 W. Jackson Ave., Knoxville, Tenn., wants 10 or 12-horse-power double-cylinder double-drum second-hand hoisting engine; good order.

**Inkstand Bases.**—Richard E. Bell, Box 741, Atlanta, Ga., wants addresses of manufacturers relative to manufacturing (in quantities) enameled inkstand bases.

**Iron Hardware.**—Capletti Vittorio, 14 Viale Venezia, Milan, Italy, is interested in prices on small (iron) hardware, locksmiths' supplies, screws, bolts and general line of iron articles.

**Leather Drying Machinery.**—Edward Flad & Co., Fullerton Bldg., St. Louis, Mo., are receiving propositions on leather drying apparatus for Byrnes Belting Co.; to include fan of 25,000 cubic feet per minute capacity, heater, hosing, ducts, etc.

**Levee Construction.**—Bids invited for construction of 40,000 cubic yards at Vaucluse, Ark., contract price not to exceed 21 cents per yard; work dry now, with drainage ditch cut to river to keep water off. Address N. C. Williamson, Millikin, Ark.

**Limekilns.**—New Orleans (La.) Board of Trade, Paul D. MacQuiston, secretary, wants information on continuous limekilns for making oyster-shell lime.

**Locomotive.**—Raleigh Iron Works Co., Raleigh, N. C., wants for customer 30 to 40-ton standard-gauge locomotive; second-hand; first-class boiler and machinery.

**Lumber.**—See "Steel Reinforcement, etc."

**Lumber.**—J. B. Huyett, Charles Town, W. Va., invites bids on lumber.

**Machine Tools, etc.**—Bessola Invention, W. L. Bessola, inventor, Spring Valley, Ill., wants proposals on machinery and building materials for proposed pipe wrench factory.

**Mattress Machinery.**—See "Spring-bed Machinery, etc."

**Metal Work.**—Sealed proposals received at Bureau of Lighthouses, Washington, D. C., until 2 P. M. December 9, and then opened, for furnishing metal work for tower of Kilauea Light Station, Island of Kauai, Hawaii. Blank proposals and particulars obtained by addressing Commissioner of Lighthouses, Washington, D. C.

**Metal-working Machinery, etc.**—Deatur Cornice & Roofing Co., New Decatur, Ala., wants grinding machine for castings, sash-weight machine and foundry supplies.

**Metal-working.**—Railroad Metallic Tie Co., Guy S. Dunning, vice-president, Princeton, Ky., wants to correspond relative to placing order for manufacture of patented metallic tie.

**Metal-working Machinery and Supplies.**—Monarch Metal Weather Strip Co., J. D. Pierce, manager, 3322 Olive St., St. Louis, Mo., wants catalogues and prices on second-hand machinery, including oil engine, electric generators, small motors, combination saw table, metal shaper, six-foot cornice brake, general machinists' supplies, screws and bolts, brass, copper and tinned brads, tool steel, ½x1½ silt brass, and screw-machine products.

**Motors.**—See "Acid Phosphate Plant Equipment."

**Motors.**—J. R. Reynolds, principal Gilbert Academy and Industrial College, Baldwin, La., wants catalogues and prices on gasoline and kerosene motors.

**Mudshell.**—John M. Murch, County Auditor, Galveston, Tex., will receive bids until 11 A. M. November 20 for furnishing about 3100 cubic yards mudshell for county roads near Alta Loma and Arcadia, as per specifications on file with County Auditor, from whom copies may be had on application; proposals to be made on blanks attached to specifications and be accompanied by certified check for \$200.

**Naval Supplies.**—Navy Department, Bureau of Supplies and Accounts, Washington, D. C., will receive bids until December 5 for furnishing iron or steel bands and bolts, 1000 feet of black pipe and 52 rubber dredging sleeves, schedule 4087; 10,000 feet of white pine and 43,000 feet of yellow pine, schedule 4088; delivery Navy-yard, Charleston, S. C.; also until December 5 for furnishing 10,000 feet of white ash and 30,000 feet of North Carolina pine, schedule 4088; delivery Navy-yard, Norfolk, Va.; also until December 5 for furnishing 4000 pounds of nickel, 16,000 pounds of hot-rolled steel, 60,000 pounds of pig tin and 500,000 pounds of nitrate and sulphuric acid, schedule 4085; delivery Navy-yard, Washington, D. C.; for schedules apply to navy pay office nearest navy-yard.

**Paving.**—Board of Public Works, D. B. McKay, chairman, Tampa, will receive bids

until 2 P. M. November 21 for construction of sheet cement sidewalks in various subdivisions, according to plans and specifications adopted by board.

**Paving.**—Board of Commissioners, Tulsa, Okla., receives bids in office of City Auditor until 9:30 A. M. November 21 for paving portions of 4th, 5th, 7th, 8th, 15th, Cameron and Easton Sts., Cincinnati, South Denver, North Denver, Carson and Perryman Aves., and Duluth Pl.; bids will be received on various kinds of asphalt, mineral rubber, asphaltic concrete, Hassam pavement, Bermudez Lake asphaltic concrete and Portland cement; plans and specifications on file in office of City Engineer; certified check for 5 per cent. amount of bid required; usual rights reserved; E. B. Cline, City Auditor.

**Photo-engraving Plant.**—P. H. Whaley, Jr., 6 Water St., Charleston, S. C., wants apparatus for photo-engraving plant.

**Plumbing, etc.**—First Baptist Church, Rev. T. M. Calloway, chairman of building committee, Fitzgerald, Ga., will receive bids November 28 for plumbing, art glass and wiring for \$30,000 edifice.

**Pumps.**—See "Acid Phosphate Plant Equipment."

**Pumping Engine.**—Proposals for furnishing direct acting, horizontal duplex, triple expansion, condensing pumping engine of 3,000,000 gallons capacity in 24 hours will be received by Board of Water Commissioners, Pat Bracken, superintendent, Temple, Tex., until November 18 at 4 P. M.; commissioners will also receive bids on crank and wheel pumping engine of same capacity.

**Reinforcing Bars.**—Vicksburg Boiler and Iron Works, Levee and Depot Sts., Vicksburg, Miss., wants about 52,000 pounds of concrete reinforcing bars.

**Road Construction.**—Escambia County Commissioners, Brewton, Ala., will receive bids until noon November 29 for grading, draining and surfacing with gravel about nine miles of road; certified check \$250; W. S. Keller, State Highway Engineer.

**Safe, etc.**—Columbia County Bank, Lake City, Fla., will buy vault doors, safe and bank fixtures December 7 at office of F. D. Cone.

**Sand and Gravel.**—Weber Chimney Co., 209 S. State St., Chicago, Ill., wants sand and gravel, delivered Collinsville, Okla.

**Sawmill Machinery.**—Byrd-Matthews Investment Co., R. M. McCombs, president, St. Louis, Mo., is receiving estimates on complete equipment for three sawmills having combined capacity of 60,000,000 feet hardwood annually.

**Seating.**—First Baptist Church, Rev. T. M. Calloway, chairman of building committee, Fitzgerald, Ga., will receive bids November 28 for seating for \$30,000 edifice.

**Skylight, Flashing, etc.**—Office of Superintendent of Prisons, Department of Justice, Washington, D. C. Proposals received in this office until 10 A. M. November 27 (date postponed from October 21, as recently stated), and then opened, for skylight, flashing, etc., for administration building United States penitentiary, Atlanta, Ga., in accordance with specifications, copies of which, with further information, may be had upon application at this office. R. V. La Dow, Superintendent of Prisons.

**Spring-bed Machinery, etc.**—Sterling Smith, Winston-Salem, N. C., wants spring-bed and mattress machinery.

## INDUSTRIAL NEWS OF INTEREST

**Carolina Electrical Co.'s Contracts.** The electrical installations for the post-office building, Washington, N. C., and for the North Carolina State building to be erected at Raleigh will be made by the Carolina Electrical Co. of Raleigh, which has recently been awarded the contracts.

**The Dalworth Company's Building Department.**

An architectural and building department has been recently added to the other activities of the Dalworth Company of Dalworth (Grand Prairie P. O.), Tex. In this connection the company wants all kinds of catalogues pertaining to the building trades.

**The Gallon Iron Works Co.'s Prize-Winning Exhibit.**

The first premium for the best and largest exhibit and demonstration of road machinery, culvert pipe, steam traction engines, wheel scrapers, rosters, heavy road graders, steam roller, road drags, etc., was awarded to the Gallon Iron Co., Gallon, O., at the Mississippi State Fair recently held at Jackson. This exhibit consisted of four carloads of machinery, culvert pipe and other

**Steam Shovel.**—C. W. Mitchell, 1917 Bremen Ave., St. Louis, Mo., wants second-hand steam shovel; 1 or 1½ yard dipper; machine to be on railroad trucks.

**Steel Reinforcement, etc.**—Sealed proposals received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10:30 A. M. December 6, and then opened in public, for furnishing steel slab and reinforcement material, wrought-iron and steel pipe, lumber and piles. Blanks and general information relating to this Circular (No. 665) may be obtained from this office or offices of Assistant Purchasing Agents, 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and 1086 North Point St., San Francisco; also from U. S. Engineer offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash. F. C. Rogers, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

**Vault Doors.**—See "Safe, etc."

**Water-works.**—Board of Aldermen, Loreauville, La., will receive bids until December 15 for construction of water-works, including tower and tank. Specifications may be obtained from Paul Bassin, Tax Collector, Box 23. (Date postponed from November 15, as lately stated.)

**Water-works Equipment.**—Middlebourne Water Co., K. S. Boreman, president, Middlebourne, W. Va., will purchase complete equipment for water-works; 100 gallons per minute capacity; 60,000-gallon tank; cost \$8500; Mentor Hetzer of Moundsville, W. Va., superintendent of construction, may be addressed.

**Wharf.**—Sealed proposals received at office of Chas. E. Bolling, City Engineer, Richmond, Va., until 3 P. M. November 29 for construction of timber and pile bulkhead wharf about 700 feet long along north shore of James River, Richmond, Va., from Gillies Creek to Nicholson St.; separate proposals received for removal of earth, gravel, loose rock and solid rock between face of wharf and channel. Information, plans and specifications can be obtained at office of engineer; bidders required to examine site before submitting bids; certified check for \$500. Committee on James River Improvement reserves right to reject bids offered or to award separately or as a whole.

**Well Drilling.**—Catoosa Oil Co., 312 Empire Bldg., Atlanta, Ga., desires to correspond with firms relative to drilling oil wells near Ringgold.

**Wire Baskets.**—Home Supply Co., second floor, Farmers' State Bank Bldg., Lindsborg, Kans., wants small wire-cloth baskets, 3x4½ inches across top; will want 1000 at first.

**Wiring.**—See "Plumbing, etc."

**Wooden Specialty Manufacturers.**—See "Handles."

**Woodworking Machinery.**—See "Metal-working Machinery and Supplies."

**Woodworking Machinery.**—J. E. Tracy, Taft Novelty Works, Taft, Fla., wants addresses of manufacturers of automatic lathes, boring machines and cap and base machine to turn and bore tapered wooden columns.

material. As a result of this exhibit several important sales were made by the company during the fair, and others since the fair closed, so that the exhibit proved to be eminently satisfactory in every way.

**Southern Mosaic Tile Co.'s Contracts.**

The contract has been awarded to the Southern Mosaic Tile Co. of Birmingham for all tile work in the Young Women's Christian Association Bldg. in that city. Another important contract recently received by the company is for the tile work on the First National Bank, St. Petersburg, Fla.

**Goulds Manufacturing Co. of Illinois.**

Mr. O. D. Hogue has been appointed vice-president and treasurer of the Goulds Manufacturing Co. of Illinois, Ohio and Franklin Sts., Chicago. This is the Western branch of the Goulds Manufacturing Co., manufacturer of pumps and hydraulic machinery, of Seneca Falls, N. Y.

**Union Mining Co.'s Baltimore Offices.**

The Union Mining Co., proprietors of the Mount Savage Fire Brick Works, Mount Savage, Md., has recently secured a commo-



dious suite of offices on the eleventh floor of the new Fidelity Trust Bldg., Baltimore, Md., where the president's office and sales department are located. The general accounting, laboratory and manufacturing departments will remain at Mount Savage.

#### Chesapeake & Ohio Coal & Coke Co.'s Norfolk Offices.

The Washington office of the Chesapeake & Ohio Coal & Coke Co. has been consolidated with its Norfolk office at 146-156 W. Main St., Norfolk. The company will continue to maintain its other branch offices as already established and its general offices at 165 Broadway, New York. The move to Norfolk was necessary owing to the large increase in the company's Southern and tide-water business.

#### Tennessee Marble for Memorials in New York City.

Tennessee pink marble will be used in the construction of the Maine Memorial at the entrance to Central Park, New York, and for the Fireman's Memorial on Riverside Drive in that city. The contract, which amounts to about \$75,000 for the two memorials, has been awarded to the Fenton Construction Co. of Knoxville. This company will begin getting out the marble and make preparations for the construction of the memorials at once.

#### The Success of the National Showcase Co., Columbus, Ga.

Since commencing business, three years ago, the National Showcase Co. of Columbus, Ga., has had remarkable success, due to the high grade of workmanship and finish of the showcases and fixtures manufactured and the enterprise of the company in pushing its product so as to meet the rapidly growing demand in the South. The company obtains a large share of the business in its lines, and is building up a constantly increasing trade.

#### Purchases a Half Interest in Richmond Agency.

A half interest in the manufacturers' agency business of Jos. A. Bell & Co., Richmond, Va., has been purchased by W. P. Sullivan, formerly superintendent for the Alabama Consolidated Coal & Iron Co. of Birmingham. Bell & Co. will enter the engineering field in addition to its previous business of representing manufacturers of machinery, equipment and supplies, for contractors and builders. Mr. Sullivan will have entire charge of the engineering department.

#### The Bessola Invention Co.'s Wrench Factory.

A site for the Bessola Invention Co.'s wrench factory has been selected at Spring Valley, Ill., about 100 miles west of Chicago. This site, having three railways and river communication at hand, will give the company good shipping facilities. The ground has been purchased and a brick and steel structure 75x150 feet will be built at once. The company expects to place the patent pipe wrenches as designed by the inventor, W. L. Bessola, on the market early in January.

#### Fenestra Ribbed Glass (Steel Frame) Windows.

A new group of factory buildings now being constructed for the Hupp Motor Car Co., Detroit, will have as a conspicuous feature a large expanse of Fenestra steel windows which will be glazed with ribbed glass. This equipment of windows is manufactured by the Detroit Steel Products Co. of Detroit, and is designed to give diffused daylight through all the working floors of the factory, without shadows or glare and to do away with any need for shades or awnings. It is expected that the buildings will be completed in January.

#### Construction Office Transferred from New York to Atlanta.

A general construction and engineering firm, composed of S. Hard, O. R. W. Worm and R. M. DeFasselle, all of New York, after thoroughly examining into the matter of changing their New York business to a section of the country where rapid development is being made, have established themselves at 404 Walton Bldg., Atlanta, under the firm name of Hard & Worm. These gentlemen, realizing the Southward trend of development, have accordingly moved to Atlanta to begin an active and aggressive campaign for new business in this growing section.

#### Noiseless Wheels Made in Alabama.

Recent orders for noiseless wheels for use on electric baggage trucks have attracted attention to the importance of the output of the Noiseless Wheel & Truck Co., Cedar-

town, Ala. It is reported that an order has been received from the Pennsylvania Railroad Co. for a large number of these noiseless wheels to be used on all its electric baggage trucks. These trucks are used at many of the larger railroad stations, and the demand for them is rapidly extending. In addition to the Pennsylvania Railroad order, another has been received from a scenic railway company of New York for 9000 noiseless wheels.

#### Three Georgia Cotton Mills for Sale.

The entire plants, including all real estate, mill buildings, tenement-houses, etc., of the Central Mills, 7168 spindles; the Spaulding Cotton Mill, 9384 spindles, and the Boyd-Mangham Manufacturing Co., 13,888 spindles, located in and near Griffin, Ga., will be sold separately at public auction at the Griffin courthouse on December 9, 1911. The trustees of this property originally intended to dispose of it at private sale, but have now determined to sell it to the highest bidder. A description of the property and other information may be obtained from any one of the following trustees: Roswell H. Drake, Griffin, Ga.; John K. Ottley, Atlanta, Ga.; T. D. Meador, Atlanta, Ga.

#### Jeffrey Manufacturing Co.'s Atlanta Branch.

Owing to the rapid growth of the business of the Atlanta branch of the Jeffrey Manufacturing Co. of Columbus, O., arrangements were recently perfected for increasing the facilities of its Atlanta office. A new location was selected at 37 E. Mitchell St., where the company has installed a complete stock of Jeffrey detachable link chain and attachments for the same, Hercules, Peerless and Mey-Oborn chain, spiral conveyors, power and transmission machinery, including improved type of split iron pulleys; friction clutches, pillow blocks, post hangers, wall brackets, safety collars and other accessories. The company states that it is now in position to fill all orders at the Atlanta branch promptly.

#### Specialty Work in Machinery.

In addition to its extensive plant for doing all kinds of machining, including especially intricate work, the Black & Decker Manufacturing Co., 113-115 S. Calvert St., Baltimore, has just installed enamelling equipment. It will also provide its plant with a complete nickel-plating outfit by the first of the year. Owing to the marked success of this company, its machine-shop equipment has been increased, so that its capacity has been doubled. On account of its facilities for doing high-class work, including the manufacture of small and medium-sized articles, it caters to inventors and small manufacturers who have no plant, but who desire to have specialties of any kind made for them. The demand for this company's work, especially in the South, is constantly increasing.

#### Seven Thousand Acres of Rich Yazoo Delta Land for Sale.

Atwood, Violet & Co., 20 Broad St., New York, offer for sale the lands in a tract of about 7000 acres, composed of rich flood-fertilized soil in the Yazoo Delta, on Lake Lee and the Mississippi River in Washington county, Mississippi. It is stated that this land is especially adapted to the raising of long staple cotton, and will yield one to two bales per acre. It has excellent shipping facilities by both rail and water. Greenville, a cotton market, is nine miles distant by railroad. The tract, known as Belle Island, is almost surrounded by Lake Lee, which is one-quarter of a mile wide and from 10 to 60 feet deep. A circular with full information will be sent on request to Atwood, Violet & Co.

#### Fairbanks, Morse & Co.'s Premium Exhibits.

Extensive exhibits which manufacturers of machinery in all lines are making at the various State fairs in the South indicate the rapid growth of Southern business and the effort of these companies to cater to this trade. Fairbanks, Morse & Co., Chicago, with Southern offices at Atlanta, Jacksonville, New Orleans and Richmond, made extensive exhibits at the recent Macon (Ga.) State Fair, and were awarded first premiums on every machine exhibited, including gasoline engines, deep-well pump, shallow-well pump, pneumatic water system, hand-power corn sheller, Williams' corn mill and an electric-light plant. The company also received the first premium for the best display of machinery as a whole.

#### Southern Sales Agent for Water-Works Equipment, Etc.

A full line of water-works equipment, sewer-cleaning and building tools, fire-de-

partment supplies, road and street-making machinery, prisms and prism-glass material are handled by C. F. Blount, Southern sales agent, Atlanta, Ga. Mr. Blount represents the Anderson Coupling Co., Hartford; Harold L. Bond Company, Boston; Coffin Valve Co., Boston; Engineers' Appliance Co., Cleveland; Engberg's Mechanical and Electric Works, St. Joseph, Mich.; Modern Iron Works, Quincy, Ill.; New Brunswick Iron Works, New Brunswick, N. J.; The Ohio Road Machine Co., Oberlin, O.; The T. L. Smith Company, Milwaukee, Wis.; The A. J. Smart Manufacturing Co., Greenfield, Mass.; The New York Prism Co., 497 Broadway, New York, and The United Lead Co., 111 Broadway, New York.

#### Lynchburg (Va.) Foundries Get \$125,000 Contract for Muskegon (Mich.) Water Piping.

The placing of orders for cast-iron pipe to the extent of \$125,000 by the City Engineer of Muskegon, Mich., with Lynchburg, Va., foundries gives additional testimony as to the ability of Southern foundries to compete with other sections for supplying iron products. H. N. Beck, City Engineer of Muskegon, with John R. McWane of Chicago, recently inspected the plants of the Glamorgan Pipe & Foundry Co. and the Lynchburg Foundry Co., both in Lynchburg, Va., at which time contracts were closed with these companies for the cast-iron pipe to be used on the Muskegon water-works system. The total quantity was divided between these two foundries to permit of quick deliveries.

#### Webster's New International Dictionary.

A new edition of Webster's New International Dictionary has just been issued with 2700 pages containing 400,000 defined words and phrases and 6000 illustrations. It is published by the G. & C. Merriam Company, Springfield, Mass., publisher of Webster's Dictionary since 1843. It is practically an encyclopedia, and contains the essence of information to be found in an authoritative library, and covers practically every field of knowledge. A novel feature of this edition is the division of the page into two sections, the more common terms being placed in the upper section for easy reference. Full information will be sent upon request; also sample pages, etc. A free set of pocket maps will be sent by the Merriam Company to those mentioning the Manufacturers Record when writing regarding the dictionary.

#### Recent Contracts for Foster Superheaters.

The well-recognized economy effected by the use of superheated steam has led to the adoption of superheaters in the boilers of many power-plants. Among the recent contracts received by the Power Specialty Co., 111 Broadway, New York, for Foster superheaters are the following: The New York, New Haven & Hartford Railroad Co., 10,620 horse-power in the boilers at its Cos Cob and Bridgeport, Conn., plants; the Delaware, Lackawanna & Western Railroad Co., 500 horse-power at its Leominster colliery; the International Harvester Co., 2800 horse-power at its Plano and Weber plants; J. R. Nutt Company's plant, Fort Worth, Tex., 4000 horse-power in Edge Moor boilers; Citizens' Light, Heat & Power Co., Montgomery, Ala., 3200 horse-power in Stirling boilers, and a total of 19,000 horse-power in the boilers at various other plants, including Babcock & Wilcox, McNaul and Bigelow-Hornshy boilers.

#### Contracts for the American Trust and Savings Bank Building, Birmingham.

Carroll Blake, the Birmingham representative of the Fred A. Jones Contracting Co., Dallas, Tex., the general contractor for the American Trust & Savings Bank Bldg. in Birmingham, states that the structural steel work on that 20-story building will now be expeditiously carried on, and that the majority of the contracts for the various materials to be used in its construction have been awarded. Shipments of steel have been made from Pittsburgh by John A. Mullen of that city, who is the subcontractor for the erection of the steel frame. The Northwestern Terra-Cotta Co. of Chicago will supply the terra-cotta for the facing at a cost of \$25,000. The Wimberly & Thomas Company of Birmingham was awarded a \$26,000 contract for the mill work and glazing. The Kirkpatrick Sand & Cement Co., Birmingham, will furnish the Portland cement. The Ben F. Barbour Plumbing Co., Birmingham, will install the electrical and plumbing fixtures at a cost of \$50,000. The large brick order has been placed with the Sibley-Menge Brick & Coal Co., Birmingham. The exterior

marble to be used for the first three stories of the building will be supplied by the B. A. & G. N. Williams Company of New York at a cost of \$15,000. The Taffoli & Marus Company of Charlotte, N. C., will furnish the floor tiling at a cost of \$6000. The ornamental iron work, costing \$35,000, will be furnished by the Spuck Iron & Foundry Co. of St. Louis.

#### Westinghouse Equipment for Mare Island Navy-Yard.

A contract from the Navy Department for additional electrical equipment for the central power plant at the Mare Island Navy-Yard, California, has been received by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, as subcontractors through the John W. Danforth Company, Buffalo, N. Y. This equipment includes six induction motors with a double equipment of 14½ horse-power, both single and double-speed motors for driving circulating and condensing pumps in the power-house. The contract also includes three 50 K. V. A. transformers for reducing the voltage of the generators for the motors, one 20-kilowatt motor driven exciter set, two 25-kilowatt turbo-generator exciter sets, one 19-panel station switch-board and one distributing panel. The generating equipment for this station was purchased previously to this contract, and includes one Westinghouse-Parsons 1000-kilowatt 2200-volt turbo-generator.

#### Heavy Sales of Refrigerating Machinery.

The constantly increasing use throughout the South of ice-making and refrigerating machinery and equipment is indicated by the sales of the various companies manufacturing this machinery. Among the recent sales of the Frick Company, Waynesboro, Pa., the following are of importance: To the East Atlanta Ice Co., Atlanta, Ga., an 80-ton refrigerating compression slide, a 50-ton improved flooded freezing system and parts of a distilling system; Greenwood Ice & Coal Co., Greenwood, S. C., a 30-ton improved flooded freezing system and a 50-ton single-acting Frick compressor placed on a machine of another make; Moses Bros., farm and dairy, Norfolk, a 10-ton refrigerating plant, triple pipe brine cooling system and direct expansion piping for use in dairy; the Harrisonburg Ice Corporation, Harrisonburg, Va., direct expansion storage piping; D. W. Brown, Lake City, Fla., ammonia condensers, etc.; Crystal Ice Co., Little Rock, Ark., 60-ton ice-making plant to be installed in ice factory at Argenta, Ark.; Abilene Ice Co., Abilene, Tex., a 26-ton ice-making machine; D. Canale & Co., Memphis, Tenn., a 10-ton refrigerating plant and direct expansion piping for use in general storage; Aiken Ice Co., Aiken, S. C., changing old freezing system to improved flooded freezing system in plants at Aiken and Warrenville, S. C.; People's Ice & Fuel Co., Beaufort, S. C., 25-ton refrigerating machine and changing freezing system to improved flooded system; Natchez Packing Co., Natchez, Miss., a 50-ton refrigerating machine; Independent Ice Co., Chattanooga, Tenn., a 65-ton ice-making machine, a 35-ton improved flooded freezing system, a 90-ton distilling system and changing the present system to improved flooded system.

#### Reminiscences of a Mill Supply Pioneer.

While writing in a reminiscent mood in the summer of 1910, Mr. C. L. Rice, who recently died at the age of 89, and who had been connected for many years with the Dodge Manufacturing Co. of Mishawaka, Ind., in the Chicago office, made the following references: "One day 40 years ago a young man came into my store, the Rice Machinery Co., and after carefully looking over my stock of wood and ironworking machinery selected several machines that he wished to purchase, giving his name and address. 'Now,' he said, 'I haven't got the money to pay for these, but if you will let me have them, I will see that you get it.' He followed this by giving me full particulars regarding his business, experience, expectations, etc. There was something in the young man himself and the way he talked that won me to him, and he got the machines and in due course of time I got my money. This man was Wallace Dodge, and, as subsequent events in my life proved, it was the most profitable sale I ever made, for here began an acquaintance that quickly ripened into friendship, then merged into close business relations, resulting in my taking the first agency for the sale of Dodge 'Independence' split wood pulleys. The first Dodge pulley sold by me in Chicago was in 1882 to Palmer-Fuller Company, manufacturers of saw doors and blinds, on my personal guarantee to make good any damages, and that they

were not to pay for the pulley until it had proved satisfactory in every way. I went at my task with some misgivings as to the possible results, but was pleasantly surprised after the pulley had been running to receive a check for the purchase, and also an order for five more. After that it was easy sailing."

#### The Bucyrus Company's Reorganization and Additional Plant.

The rapidly-increasing business of the Bucyrus Company, South Milwaukee, has been such that it has been found necessary to make a large addition to its manufacturing equipment and plant. In addition to its Milwaukee shops, a site comprising 70 acres has been obtained at Evansville, Ind., and new shops are now being erected at that place, where about 1000 men will be employed. Excavating shovels operated by wire rope, as well as shovels operated by chains, will be built at the Evansville plant. This company builds dredges of various sizes and types, wrecking cranes, pile drivers, drag-line excavators, plow ballast unloaders and steam shovels. It now proposes to bring out a line of light revolving steel shovels weighing up to 40 tons complete, and it will also take up the manufacture of still other types of earth handling and excavating machinery. Bucyrus hydraulic, dipper and placer dredges are now in operation in Russia, India, Alaska, South America, the Philippines and Hawaii, and the company has sold many steam shovels for work in Norway, Sweden, Germany, Spain, Siam, Africa, Australia, Alaska, Cuba and South America. This foreign trade has not been directly solicited, as the capacity of the plant has been largely taken up with the home demand, but hereafter active attention will be given to the development of export business. In order to obtain these increased facilities the company has just completed a plan for reorganization with increased capital to \$10,000,000 authorized, \$8,000,000 issued. The interest of new stockholders has been secured through the banking houses of Pomroy Bros., New York, and Edward B. Smith & Co., Philadelphia. Howard P. Ellis, former president of the Bucyrus Company, is to be chairman of the board of directors under the reorganization; Wm. W. Coleman, president; E. K. Swigart, vice-president; G. A. Morison, secretary, and D. P. Ellis, treasurer.

#### TRADE LITERATURE.

##### The Carolina Farm Land Development Co.

Within one mile of Andrews, S. C., the Carolina Farm Land Development Co. has put in readiness for farm work a 10,000-acre tract of land that has never been cultivated. This land has been drained by the digging of canals and ditches, roads have been built and the tract has been divided into 60-acre farms. A pamphlet has been published by the company, in which this property is described and illustrated with views of the drainage canal, road machine at work, newly constructed roads, growing crops and other farm scenes, together with views of buildings in Andrews. This pamphlet and other information may be obtained by addressing the Carolina Farm Land Development Co., Andrews, S. C.

##### Goulds' Triplex Plunger Pumps.

In the development of its pumps, the Goulds Manufacturing Co., Seneca Falls, N. Y., states that it constantly endeavors to work out each detail to best adapt them for the work required; to proportion all parts so as to reduce operating troubles to a minimum; to make frequent adjustments unnecessary, and to make occasional adjustments of bearings, repacking of glands and renewal of valves simple and easily-performed operations. The company has recently published bulletin No. 101, describing its single-acting triplex plunger pumps for pressures up to 300 pounds per square inch, or 560 feet elevation, and with capacities up to 21,000 gallons per hour. This bulletin contains illustrations of every part of the pump, both in detail and as assembled, so that a close study of its construction and operation may be made. Detailed specifications of the different sizes are given, and illustrations showing the different forms of drive, as electric, belt, direct-connected motor drive, chain drive, etc., are included.

##### Jeffrey Power-Transmission Machinery.

A very complete power and transmission catalogue, in which a considerable amount of technical and other valuable information on power and transmission is given, has been issued by the Jeffrey Manufacturing Co., Columbus, O. In this catalogue the

complete line of power-transmission machinery is listed, giving the information in a way to make this book valuable to all engineers where this class of machinery can be used. Descriptive matter on the horse-powers of steel shafting, standard methods of keyseating, sizes and dimensions of couplings, hangers, pillow blocks, countershafts, belt tighteners, clutches, etc., is included. A feature is made of the Jeffrey improved split iron pulley, which may be readily clamped on the shaft without disturbing any other equipment. Complete information is given on rope drives, wood split pulleys, Jeffrey gears, horse-power belts, methods of calculating bending and torsional moments for shafts, etc. The catalogue is fully illustrated and contains many dimension tables and a price-list of all material included.

##### Grinding, Pulverizing and Separating Machinery.

The wide field for the use of grinding machinery in lime and cement plants, for ores, fertilizers, drugs, paints, fuller's earth, etc., is reflected in the long list of customers and 75 different materials given in catalogue No. 10 of the Raymond Bros. Impact Pulverizer Co., Chicago. This company designs special machinery and develops special methods for grinding, pulverizing and separating materials, and manufactures automatic pulverizers, roller mills, vacuum, air and screen separators, crushers, special exhaust fans and dust collectors. The catalogue describes and illustrates in detail the construction of these outfits, and several are shown as installed and in use in cement mills, coal plants, etc. It is stated that the Raymond system is based on principles which have revolutionized the old methods of grinding and separating. The service of the company's engineering force is available for advice and information regarding any grinding problems that may arise, and the company emphasizes the mutual value of correspondence with it by every concern having interests in grinding and pulverizing propositions.

##### Triumph Drop Forge Chains.

The importance and extensive use of hauling chains in coal-handling plants, cement-manufacturing plants, car hauling for ores, in quarries, and for hauling continuous pan conveyors for many classes of material, has made a demand for special types of chains. The C. O. Bartlett & Snow Company, Cleveland, O., manufactures several types of these chains under the name of Triumph drop forged chains, and has issued catalogue No. 32, illustrating and describing them. This catalogue has been prepared with a view of giving definite information in regard to the materials used and the application of the types of chain described. Line drawings and dimension tables are given for each type. Descriptions of car-haul dogs and wheels for use in connection with these chains are included in the catalogue. This company makes specialties of general service car hauls, Green self-dumping car hauls, coal and ash handling equipment for power plants, complete gypsum plants, plaster-mixing plants, coal and ore handling machinery, mechanical dryers, garbage-disposal plants, fuller's-earth plants, crushers, pulverizers and automatic feeders, sand and gravel washing plants, cereal mills, conveyors, etc.

##### Factories and Warehouses of Concrete

The whole field of reinforced concrete construction is covered in the 224 pages of a book entitled "Factories and Warehouses of Concrete," published by the Association of American Portland Cement Manufacturers, and which is being distributed by the Wm. G. Hartranft Cement Co., Philadelphia. The book is of particular value to architects and engineers and all persons interested in the construction of modern industrial buildings. Special attention is given to the subject of ultimate economy attained by concrete construction. Prominent in this matter of ultimate economy are the elements of fireproofness, waterproofness and permanence, or freedom from deterioration. Reinforced concrete came into prominence largely on account of its being an ideal fireproof material. It has been demonstrated by numerous tests that heat penetrates concrete slowly, and even in many extensive conflagrations it has been practically impervious to fire. Underwriters will quote lower insurance rates on concrete industrial buildings than on many other types of construction, and it is estimated that a reinforced concrete building will save one-half of 1 per cent. per year on the value of the building owing to decreased insurance rates due to this protection from fire. A number of concrete structures are in use on which the owners carry no insurance on the building. With the improved fireproof construction of the

Macon Telegraph Bldg., recently completed at Macon, Ga., insurance rates on building and equipment were reduced, as shown in a recent article in the Manufacturers Record, from \$2.35, the rate on the old building, to 75 cents per \$100. This effected a saving in insurance alone sufficient to pay the interest on the entire cost of the building. Illustrations of 229 buildings with 59 interior views of some of the most prominent buildings in the country constructed of reinforced concrete are shown in the book referred to. Valuable data pertaining to these buildings are given in connection with individual illustrations, including cost of building, cost per cubic foot, cost per square foot of floor area, form of construction of building, insurance rates on contents and on building, and a statement of the fire protective devices used. The only charge made for this book is 12 cents to cover postage.

##### "Warrenite," a Bituminous Concrete for Road Surfaces.

In the great developments in road building that have taken place in the past few years it has been necessary to provide means, machinery and material to keep up with the increasing demand for improved roads and methods of construction. In this development the Warren Bros. Company, Boston, has produced its well-known bitulithic street pavement, the growth of which has been marked wherever paving is used. This company has now extended this work to the producing of a satisfactory surface for country roads in which "Warrenite" is used under the same general principles and with the same materials and supervision as the bitulithic street pavements. In order to extend the use of "Warrenite" this company has devised and put into operation portable "Warrenite" plants which can be readily transported over the roads and which offer all facilities of a modern bituminous paving plant wherever desired at a comparatively small expense. The company has issued a pamphlet describing "Warrenite" and its use as a permanent bituminous concrete road surface. Several illustrations are given showing its use and various highways constructed of it, and a complete "Warrenite" plant as operated.

##### Fire Protection in the Norton Plant at Worcester.

The importance of efficient fire-fighting equipment and the benefits of regular fire drills are noted in a recent issue of the publication of the Norton Company, Worcester, Mass. This publication, "Grifts and Grinds," in addition to an extensive description of its well-known products, aluminum and crystalline, has considerable space devoted to a description of the sprinkler systems, water service, alarm systems, fire-fighting equipment and efficiency of its fire department produced by regular fire drills. The Norton Fire Department is composed of picked men who live near the works and who are ready to answer the fire alarm at any time. A private system is installed throughout the works. A salvage corps has been trained to save stocks and the books of the company and to salvage goods after a fire so that

water may not be permitted to do more damage than the fire. It is stated that an advantage of having a shop fire department all ready for action is that the men are acquainted with the locality, whereas the city firemen have but slight acquaintance with the shops. In case of a big fire the city firemen would be called on to co-operate, and would find the Norton firemen valuable as guides as well as able aids in fire-fighting.

##### "Economy" Elevator Guide Lubricator.

For the economical operation of any machine and for maximum efficiency with this economy the greatest amount of effective work must necessarily be produced with the minimum amount of costly attention and with the least wear and tear of the machinery. This is in part obtained by the use of automatic lubricating devices. This applies to the running of elevators as well as the operation of power plants, and modern conditions have made the economical operation of elevators a matter of importance, since the elevator uses a large part of the total power supplied in office buildings, hotels and other large structures. To meet the demand thus produced for an efficient lubricator that requires little attention the Peterson Engineering Co., Hudson Terminal Bldg., New York, and First National Bank Bldg., Chicago, has designed the "Economy" elevator guide lubricator. It automatically applies a thin film of lubricant to the guide rails at every trip of the car. This lubricator is described and illustrated in detail and the advantages given in Bulletin No. 56, issued by the company. Price-lists and instructions for ordering are given. There is also included a list of 125 prominent buildings in which "Economy" lubricators are used.

##### "Ferrolinclave" Reinforcement for Concrete Work.

The constantly extending use of Portland cement and concrete in many forms of construction encourages manufacturers of reinforcing materials to produce improved methods and forms of reinforcing bars, sheets and shapes. In this direction the Brown Holsting Machinery Co., Cleveland, O., has developed and manufactures "Ferrolinclave," a sheet steel with dovetail corrugations which are inversely tapered, thus permitting the small end of the corrugations of one sheet to shingle into the large end of the corrugations of other sheets, forming a tight joint without destroying the dovetail corrugations, and making practically one continuous sheet. It is used as a reinforcement for concrete roofs, floors, side walls, partitions, stairs, coal bins, highway bridges, culverts, tanks, silos, car floors, etc. The corrugations are one-half inch deep and two inches from center to center up to 10 feet long. The catalogue recently issued describes and illustrates "Ferrolinclave," showing its application in various stages and time of actual work, including methods of using clips and cross-ties, laying sheets, cementing a "Ferrolinclave" roof, sawtooth roofs, buildings with "Ferrolinclave" roofs and side walls and floors, together with line drawings of details of construction.

## MOTOR TRUCK AND TRACTOR NEWS.

##### New Motor Trucks in Baltimore.

Among the new motor trucks which have been placed in active use in Baltimore are the following: A Pullman truck, manufactured by the Pullman Motor Car Co., York, Pa., purchased by the Emerson Drug Co.; the Puckard coal truck fitted with patent unloading body, purchased by the J. Maury Dove Company; three General Vehicle electric trucks of 1600 pounds to 3½ tons capacity, purchased by the Consolidated Gas, Electric Light & Power Co.

##### Reo Motor Car Co.'s Plans for 1912.

It is estimated by the manufacturer that 4000 Reo motor trucks will be completed during the year commencing October 1, 1911. The Reo motor truck is manufactured by the Reo Motor Car Co. of Lansing, Mich. Its output for motor cars, exclusive of trucks, is expected to be 9000 cars in this period. The company will manufacture all the parts of its motor cars and trucks hereafter, which will require an additional force of 500 men.

##### The Stegeman Three-Ton Truck.

In addition to its two and four-ton trucks the Stegeman Motor Car Co. of Milwaukee is manufacturing for the 1912 season a three-ton truck. It is so constructed that the rear wheels carry 80 per cent. of the load. The power plant is of the unit construction type, with motor, clutch and transmission in one unit. The motors are of four-cylinder type and of long stroke, designed especially

for motor truck use. The motors are fitted with sealed governors in order to limit the maximum speed.

##### Hatfield Company's Motor Trucks.

Trucks of one-half-ton and one-ton capacities are being constructed by the Hatfield Company of Elmira, N. Y., for delivery and express and other service. The one-ton model is fitted with a three-cylinder two-cycle air-cooled motor of 24 horse-power. The tires are solid, 34x2½ inch front and 34x3 inch rear. The chassis weighs 2100 pounds. The one-half-ton model is equipped with a 20-horse-power motor, with either solid or pneumatic tires, and is proportionally lighter than the one-ton truck.

##### The "Rapid" Three-Ton Truck.

The 1912 model of the "Rapid" three-ton truck, manufactured by the Rapid Motor Vehicle Co. of Pontiac, Mich., is fitted with a four-cylinder four-cycle vertical slow-speed type motor of 36 to 40 horse-power, water-cooled. The engine is located under the seat and is accessible from either side and through the floor board. The loading space back of the seat is 11 feet 6 inches, with a small overhang beyond the rear axle. The wheel base is 135 inches. One of the features of this truck is found in the construction of the foot brake, which is located on the ends of the jack shaft. By using a positive cam action the maximum braking power is obtained. The motor is fitted with a gov-



error which automatically controls the speed. It is set at the speed at which the truck is intended to be run before leaving the factory, and, while it can be adjusted if necessary, it is so placed and sealed that reckless drivers cannot tamper with it.

#### Longest Bros. Co.'s Motor Trucks.

"Longest Trucks," manufactured by the Longest Bros. Company, Louisville, Ky., are designed and manufactured in the shops of the company and are made of three and five-ton capacities. Much attention has been given by the designers of these trucks to overcome the trouble sometimes encountered due to the vibration of trucks using solid tires. After eight years of experience, both mechanical and commercial, the "Longest" truck has been designed, and under severe tests it has been found that these troubles of vibration have been overcome.

#### Federal Motor Truck Co.'s New Agencies.

The Federal Motor Truck Co. of Detroit, manufacturer of one-ton trucks, has arranged with L. C. Long, 2357 Michigan Ave., Chicago, to represent the company in that territory. Mr. Long is a well-known automobile dealer in Chicago. The company has also completed arrangements with Claud Nolan of Jacksonville, Fla., who will be the distributor for Florida, Alabama and Georgia. The excellent performance of the Federal one-ton truck in the recent Glidden tour, which was noted in the Manufacturers Record at the time of its arrival at Jacksonville, has attracted considerable attention to this truck. Among recent sales of this company through its New York representative, the Motors Engineering Sales Co., were ten trucks for the Ward Bread Co. of New York.

#### The Waterville Traction Co.'s 1912 Models.

The Waterville Traction Co. of Waterville, O., is manufacturing two models for 1912, one of 1500 pounds and the other of two-ton capacity. The motor is of the double-opposed cylinder type, either air or water cooled, with cylinders 5x1 1/4 inches, developing 18 horse-power. The motor is located under the footboards, and the transmission is of friction type, allowing four speeds forward and one reverse speed. There are two double sets of brakes, all on the rear sprocket drum, thereby eliminating the double wear on the driving machine. The Waterville company is also bringing out a four-wheel drive agricultural tractor.

#### Atterbury Gasoline and Electric Trucks.

The various types of gasoline and electric trucks manufactured by the Atterbury Commercial Truck Co., 39 Church St., New York, are illustrated and described in the catalogue issued by the company. These vehicles include gasoline and electric delivery cars, motor trucks, sightseeing cars and hotel omnibuses. Each type is described in detail. Tables showing the cost of operating and maintaining the 3-ton truck are given in comparison with the cost of operating three teams required to do the same work. A 5-ton gasoline truck, with a special body for hauling and unloading coal, is shown. This catalogue, which includes prices and specifications, will be sent on request to interested persons.

#### The Tulsa Automobile & Manufacturing Co.

The first two carloads of machinery of the installation for the Tulsa Automobile & Manufacturing Co. of Tulsa, Okla., arrived at the plant recently. The arrival of this machinery is an indication that one of Tulsa's largest factories will soon begin operations, and it is announced by the company that Tulsa-made motor trucks will be placed on the market about January 1. The officers of this company are citizens of Tulsa, and the company is capitalized at \$200,000. The company's field will include all of the Southwest, and it is expected that shipments will be made to even more distant points. The sole product of this company will be motor cars for commercial use, including heavy trucks, which are becoming extensively used in Oklahoma and the Southwest.

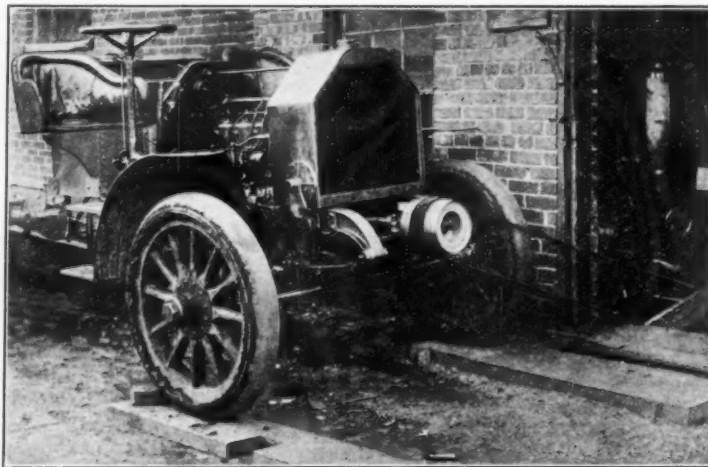
#### A Motor Attachment for Vehicles and Farm Implements.

A motor mounted on a frame attached to a single wheel and fitted with a patented construction by means of which it can be attached to a buggy, carriage, express wagon, delivery wagon, rural route wagon, farm plow, blinder, mowing machine, heavy truck, corn sheller or other farm implement where power or traction is needed has been designed and patented by Dr. Watt S. Jones

of Baxter Springs, Kan. This motor can be run at any speed up to 12 miles per hour. It is claimed that it can be quickly and easily attached and detached; that it can be turned within the radius of the vehicle's length, and that used as a tractor it is adapted to plowing small tracts of land as well as large fields. Dr. Jones has recently bought a plant at Fredonia, Kan., for the construction of the motor tractors, and is planning to build a larger plant when a suitable site is located.

#### The Avery Truck as an Emergency Power Machine.

The accompanying illustration shows a three-ton Avery truck in one of its many possible uses. This truck is used for hauling material for the wagon factory of the Avery Company at Peoria, Ill. While the factory was recently shut down for a few days for taking inventory the opportunity was taken for overhauling a steam engine used to furnish power for the shops, and which required the reborring of its cylinder.



AVERY TRUCK FURNISHING POWER FOR MACHINE SHOP.

None of the ordinary means of power were available because of the factory being shut down and also on account of the location of the engine. The Avery truck was pressed into service to furnish power to run the drills for boring out the cylinder, which it did satisfactorily. This truck has at various times been used to perform other similar work not usually reached by the usual sources of power about a factory. This illustrates the versatility of such trucks.

#### Test of White Motor Fire Trucks.

Two outfits of chemical fire apparatus, each mounted on a chassis made by the White Company, Cleveland, were recently submitted to a severe test by the New York Fire Department. A wooden structure, shown in the illustration herewith, was erected in front of the fire department repair shop, and the frame filled with shavings and dry wood and so ventilated that the fire would have a chance to burn freely.



TEST OF WHITE MOTOR FIRE TRUCKS.

The structure and contents were soaked with kerosene, after which a match was applied. After giving the fire a chance to get so well under way that the heat drove back a large crowd which had gathered to watch the demonstration, the word was given for the firemen to put the fire out. Three minutes after the streams from the chemical wagon were directed on the flames the fire was subdued to a few smoking embers. The illustration shows that the fire was so quickly and effectively checked that the en-

tire outside frame of the structure remained in good condition, being simply charred on the inside.

#### A Tractor for Hook-and-Ladder Trucks and Other Vehicles.

An experiment which is attracting the interest of fire department officials is being conducted by the Knox Automobile Co. of Springfield, Mass. A hook-and-ladder truck, built in 1861, was borrowed from the Fire Department of Bridgeport, Conn., by the Knox Company for the twofold purpose of demonstrating the possibilities of the Martin tractor, and of showing that the ordinary horse-drawn apparatus with steel tires can be safely drawn at high speed just as well as the more modern rubber-tired vehicles. A single-wheeled Martin tractor which has been attached to the front axle draws it over a good road at 30 miles an hour, and over rough places and cobble pavements at 20 miles an hour. Thus far no weakness has developed, although it has covered more miles already at high speed than the average

to enlist the interest of the more enterprising members of the retail lumber trade, especially in the larger cities of the country. That not more retail lumbermen are today using power wagons—and there are many of such users—is due more to the fact that the field has not been adequately worked than to any absence of their need. Particularly on proper representation do the 3 to 5-ton motor trucks appeal to the lumber dealer. Through their use and delivery he can contract for the furnishing of lumber and other materials to building sites at considerable distances away in the suburban districts. Another favorable factor is that the speed and the hustling appearance of the motor truck denotes enterprise on the part of the owner, as well as ability to handle large quantities of lumber in quick time, and the prominent display of the owner's name on the truck means a great deal more than a similar placard attached to a horse-drawn wagon.

#### Appointed Chief Geologist.

Waldemar Lindgren has been appointed chief geologist of the United States Geological Survey. Mr. Lindgren joined the Geological Survey as assistant geologist in 1884, since which time he has been continuously connected with the organization. In the season of 1883 he had served as an assistant geologist on the Northern Transcontinental Survey, which included an examination of the land grant of the Northern Pacific Railroad. During his connection with the Geological Survey he has also rendered services as associate professor on mining and metallurgy at Leland Stanford University, and as lecturer on economic geology at the Massachusetts Institute of Technology for several years. Since 1907 he has been in charge of the investigations of the Survey in metalliferous deposits, and during the same period has reorganized the metal statistics under the division of mineral resources.

Director George Otis Smith of the Survey states that Mr. Lindgren's record as a working geologist is best indicated by the fact that some 50 reports of which he is author are included in the list of publications of the Survey. Prominent among these are his reports on the gold quartz district of California, gold and silver mines in Idaho, copper deposits in Arizona, and especially his report resulting from the resurvey of the Cripple Creek district, together with Dr. Ransome, and his latest publication, a monographic treatment of the tertiary gold gravels of the Sierra Nevada. In addition to his Survey publications, he has contributed not less than three score articles to the various technical and scientific journals.

Mr. Lindgren is a trained mining engineer, having received his degree at the Freiberg School of Mines, and has a world-wide reputation as an authority on the geology of ore deposits. He is a member of the National Academy of Sciences, as well as of other scientific bodies.

#### Eudora's Needs.

Eudora, Ark., November 6.

#### Editor Manufacturers Record:

Eudora is situated in the south end of Chicot county, and in the southeast corner of the State, only five miles from the Mississippi River. It is surrounded by some of the richest farm lands to be found anywhere. The town is only nine years old, and now has between 800 and 1000 inhabitants. It already has two railroads, and the Frisco will run into it this year on a direct line from St. Louis to New Orleans.

We have 22 stores, one wholesale grocery, two banks, two gins, four hotels, concrete sidewalks, a fine high-school building and no saloons. Eudora needs an ice plant, oil mill and a brick plant. We are making preparations to install water-works. The Frisco Railroad is figuring on terminals here.

S. A. SCOTT.

## Sermons on the Greater South

With a view to converting from the error of his ways a Pacific Coast man who thinks that he is living in a good country, Mr. Arthur C. Burnett, real estate and insurance, of Cadiz, Ky., writing under date of October 12th to the Manufacturers Record, says:

"I have a friend way out on the Pacific Coast who thinks that the greatest country in the world, and that all the hustle there is anywhere is centered in his town. I want you to send him the MANUFACTURERS RECORD for a year, and when he has read 52 sermons as preached by you, with 'The Greater South' as a text, I feel safe in saying that he will be 'almost persuaded,' if not thoroughly convinced, that the South is greater than all the rest of the world put together in natural resources, besides the best place to live in. Draft for \$4 enclosed. Name and address subjoined."

Then Mr. Burnett gives the name of his friend, who is a lawyer in Portland, Ore., and upon whose happiness he is willing to spend \$4.00 in order to convert him from the error of his ways and convince him that instead of the Pacific Coast being the best country, the South is indeed the real country, the best place in the world in which to live. Thousands of other business people throughout the South could follow Mr. Burnett's example to the very great advantage of their friends and themselves and the South.

The influence of the Manufacturers Record in turning the thought of the people of the North and West to the South is again illustrated in a letter from Percival P. Smith of 184 La Salle St., Chicago, who has the Record sent to his home address, and who in renewing his subscription says:

"I have the RECORD sent to my personal address because I do not feel that I can keep properly in touch with the South if I miss a single issue. We look upon it as the best publication of this kind in the country and the greatest advance agent that the South has today."

A somewhat similar report comes from Mr. Chas. Bilbe of the Pelican Metal & Roofing Co., New Orleans, who says:

"I am perhaps as close a reader of the RECORD as any of your subscribers. I take the RECORD home with me at night very often."

And in taking the Record home at night to read it, Mr. Bilbe is only following the example of many others.

D. F. Conoley, president of the Tampa & Tarpon Springs Land Co., writing from Tampa, Fla., says:

"Every issue is interesting and beneficial. I have grown to watch for the coming of the RECORD and grab it on arrival."

A. W. McLean, president of the Virginia & Carolina Southern Railroad Co., Lumberton, N. C., finds that, while he has been getting the Record through corporations in which he is interested, he occasionally misses a copy, and in order to avoid this he writes:

"I enclose check for \$4 and will thank you to enter me as a subscriber to your valuable publication for one year. I have been reading it constantly, using the copies sent the cotton mills and other enterprises in which I am interested here; but I find that I miss some copies, and I am taking the precaution of subscribing personally."

Edward S. Mobley & Bro., heating and sanitary engineers, of Frederick, Md., in renewing their subscription, say:

"\* \* \* Our eyes caught an item referring to a certain party who was in the market for a heating plant, the estimate for which was to be in four days from the time we saw the notice. We immediately got busy on the telephone and secured the job. Since that time we have secured nearly \$25,000 of work in that town, and as the MANUFACTURERS RECORD started us in the town, to it can be credited all the business."

## FINANCIAL NEWS

### Review of the Baltimore Market.

Office MANUFACTURERS RECORD,  
Baltimore, Md., November 15.

The Baltimore stock market manifested considerable activity during the past week, and some advances were scored. In the trading United Railways common sold from 18½ to 18½; do. incomes, 64½ to 64½; do. funding 5s, 87½ to 87; do. notes, 5s, 99½ to 99½; do. 4s, 86½ to 86½; United Electric Light & Power 4½s, 94 to 94½; Consolidated Gas, Electric Light & Power, 94½ to 94½; do. preferred, 99½ to 100; do. 4½s, 87½ to 88½; Consolidated Gas 5s, 108½; Seaboard Air Line common, 24 to 24½; do. preferred, 45 to 46½; Seaboard Company common, 25½ to 28; do. first preferred, 90 to 96; do. second preferred, 59½ to 62½; Seaboard Air Line 4s, 87½; do. stamped, 87½; Seaboard Adjustment 5s, 80 to 81; Mt. Vernon-Woodberry Cotton Duck 5s, 78½ to 78½; G. B. S. Brewing common, ¾; do. 4s, 39½ to 39½.

Bank stock sold as follows: Union, 138 to 141; Farmers and Merchants', 51; Mechanics', 27½; Drivers and Mechanics', 211 to 210; Bank of Baltimore, 171 to 171½; Howard, 13¾; Citizens', 41 to 41½; Western, 39.

Mercantile Trust sold at 150; Fidelity & Deposit, 148 to 149; United States Fidelity, 167½ to 169; Continental Trust, 215; Maryland Casualty, 92½.

Other securities were traded in thus: Fairmont & Clarksburg Traction 5s, 90½ to 100; Macon, Dublin & Savannah 5s, 98½; Northern Central Railway stock, 124½ to 125; Norfolk & Portsmouth Traction 5s, 89½; Atlantic Coast Line of Connecticut, 245 to 248; Atlantic Coast Line Consolidated 4s, 95½ to 95½; do. convertible debenture 4s, 100½ to 100½; do. Connecticut 5-20s, 92½; do. do. 5s, certificates, 105½; Baltimore City 4s, 1954, 102½; do. 3½s, 1930, 95; do. do. 1928, 95; do. 4s, 1961, 102½; do. 3½s, 1940, 94½; do. 5s, 1916, 104½; City & Suburban (Washington) 5s, 105; Wilmington & Weldon 5s, 110½ to 110½; Fairmont Coal 5s, 97½; Maryland Electric 5s, 98½ to 99; Pennsylvania Water & Power common, 48 to 49½; Consolidation Coal, 100 to 100½; Charleston Consolidated Electric 5s, 96½; Baltimore Sparrows Point & Chesapeake 4½s, 96½ to 96½; Virginia Midland 5th, 106; Anacostia & Potomac 5s, 101; do. guaranteed, 101½; Alabama Consolidated Coal & Iron common, 37½ to 45; do. preferred, 56; Alabama Consolidated Coal & Iron 5s, 85 to 87; Maryland & Pennsylvania common, 20 to 25; do. incomes, 60 to 63; Norfolk Railway & Light 5s, 99½ to 99½; Houston Oil common, certificates, 8; do. preferred, 72 to 70; Macon Railway & Light 5s, 99; Carolina Central 4s, 94; Central Railway (construction) 5s, 108½; Atlanta Consolidated Street Railway 5s, 105½; Augusta & Aiken preferred, 73; Baltimore Electric 5s, stamped, 94½ to 95; do. preferred, 40 to 40½; Milwaukee Gas 4s, 90; Chicago Railways 5s, 100½; South Bound 5s, 108½; United States Steel common, 63 to 61½; Canton Company (Baltimore), 120; Milwaukee Refunding 4½s, 93½; Georgia & Alabama Consolidated 5s, 107; Merchants & Miners' Transportation Co., voting trust, 73.

### SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended  
November 15, 1911.

Railroad Stocks.	Par.	Bid.	Asked.
Atlantic Coast of Conn.	100	245	248
Fair & Clarks, Trac. Pfd.	100	84½	
Ga. Sou. & Fla. 2d Pfd.	100	70	
Maryland & Pennsylvania	100	24	26
Seaboard Co. Com.	100	27½	28
Seaboard Co. 1st Pfd.	100	97	
Seaboard Co. 2d Pfd.	100	61½	62½
United Rlys. & Elec. Co.	50	18½	18½

Bank Stocks.	Par.	Bid.	Asked.
Bank of Baltimore	100	171½	
Bank of Commerce	15	30	
Citizens'	100	41	42
Drivers & Mechanics'	100	219	212
Exchange	100	162	165
Farmers & Merchants'	40	51	51½
First National	100	144	150
German	100	108	
Howard	10	13½	
Marine	30	42	
Mechanics'	10	28	
National City	100	112	
Second National	100	190	
Union	100	130	137
Western	20	38	

### Trust, Fidelity and Casualty Stocks.

American Bonding	25	76½	80
Continental Trust	100	210	225
Fidelity & Deposit	50	149	150
Maryland Trust Pfd.	100	116	
Maryland Casualty	25	92	94
Merc. Trust and Dep.	50	150	
Union Trust	50	88	
U. S. Fidelity & Guaranty	100	170	

### Miscellaneous Stocks.

Ala. Con. Coal & Iron	100	45	
Ala. Con. Coal & Iron Pfd.	100	59	62
Con. Cotton Duck Com.	50	2	
Con. Gas, Elec. Lt. & P. Com.	100	94	95
Con. Gas, Elec. Lt. & P. Pfd.	100	100	100½
Consolidation Coal	100	99½	100½
G. B. S. Brewing Co.	100	¾	1
George's Creek Coal	100	73	
Mer. & Miners' Trans. Co.	100	78	

### Railroad Bonds.

Atlantic Coast 1st 4s.	95½	95½
At. Coast Conv. Deben. 4s.	100½	100½
At. Coast Conv. 4s, Cts. 5-20s.	92½	93
At. Coast Conv. 5s, Cts.	102	
At. Coast (L. & N. Col. Tr.) 4s.	93½	93½
Balto. & Annap. S. L. 5s.	70	75
Carolina Central 4s.	94	
Coal and Iron Railway 5s.	101	
Florida West Shore 5s.	99½	100½
Georgia & Alabama 5s.	106½	107
Georgia & Alabama Term 5s.	103	104
Georgia, Car. & North. 1st 5s.	105½	106½
Georgia Pacific 1st 5s.	105½	113½
Georgia Southern & Fla. 1st 5s.	106½	107
Macon, Dublin & Savannah 5s.	98½	99½
Maryland & Pennsylvania 4s.	87½	91
Seaboard Air Line 4s.	87½	87½
Seaboard 4s, Stamped.	87½	88
Seaboard Adjustment 5s.	80½	81
Seaboard & Roanoke 5s.	106	107
South Bound 5s.	108½	
Virginia Midland 5th 5s.	106	
Western Maryland 4s.	87½	89
Western N. C. Con. 6s.	104½	104½
Wilmington & Weldon 4s.	95½	
Wilmington & Weldon 5s.	110	111½

### Street Railway Bonds.

Anacostia & Potomac 5s.	100½	
Anacostia & Potomac 5s, Gtd.	101	102
Atlanta Con. Street Railway 5s.	105½	
Baltimore, Sp. Pt. & C. 4½s.	96½	96½
Baltimore Traction 1st 5s.	106½	
Baltimore Traction (N. B.) 5s.	110	111
Charleston Con. Electric 5s.	96½	98
City & Suburban 5s (Balt.).	105	106
City & Suburban 5s (Wash.).	107½	108
Fairmont & Clarksburg Trac. 5s.	99½	100
Lake Roland Elevated 5s.	108	109½
Lexington Railway 1st 5s.	93½	
Macon Railway & Light 5s.	100	
Maryland Electric Railways 5s.	98½	99
Memphis Street Railway 5s.	98½	99
Newport News & Old Point 5s.	93	
Norfolk & Portsmouth Trac. 5s.	89½	89½
Norfolk Railway & Light 5s.	99½	99½
Norfolk Street Railway 5s.	104	
United Railways 1st 4s.	86½	86½
United Railways Income 4s.	64½	64½
United Railways Funding 5s.	87½	87½
United Railways Notes 5s.	99½	99½
Virginia Railway & Power 5s.	95	96

### Miscellaneous Bonds.

Ala. Con. Coal & Iron 5s.	86½	87
Atlanta Gas 1st 5s.	103½	
Baltimore Brick 5s.	85	
Baltimore Electric 5s, Stp.	94½	95
Boliviere Hotel 5s.	100	
Consolidated Gas 5s.	108½	
Consolidated Gas 4½s.	96½	
Con. Gas, Elec. Lt. & P. 4½s.	87½	87½
Con. Gas, Elec. Lt. & P. Notes.	99½	
Consolidation Coal Ref. 4½s.	92½	
G. B. S. Brewing 1st 4s.	39½	40
G. B. S. Brewing Income 5s.	3	7
Jamison C. & C. 6s.	92½	
Maryland Club 4½s.	96½	97½
Mt. Vernon-Woodly's Cot. Duck 5s.	96½	98½
United Elec. Lt. & P. 4½s.	94	95

### SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by William S. Glenn, Broker, Spartanburg, S. C., for Week Ending November 13.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.)	80	75
Aiken Mfg. Co. (S. C.)	80	
American Spinning Co. (S. C.)	160	
Anderson Cotton Mills (S. C.)	48	
Anderson Cot. Mills (S. C.) Pfd.	100	
Arcadia Mills (S. C.)	82	
Arkwright Cotton Mills (S. C.)	99	100
Augusta Factory (Ga.)	40	
Avondale Mills (Ala.)	116	
Belton Mills (S. C.)	105	120
Brandon Mills (S. C.)	90	103
Brogan Mills (S. C.)	90	
Cannon Mfg. Co. (N. C.)	135	
Cabarrus Cotton Mills (S. C.)	130	135
Chadwick Mfg. Co. (N. C.) Pfd.	100	
Chiquola Mfg. Co. (S. C.)	170	
Clifton Mfg. Co. (S. C.) Pfd.	97	
Clinton Cotton Mills (S. C.)	120	
Columbus Mfg. Co. (Ga.)	93	98
Courtenay Mfg. Co. (S. C.)	100	
Dallas Mfg. Co. (Ala.)	99	
Darlington Mfg. Co. (S. C.)	80	
D. E. Converse Co. (S. C.)	90	
Drayton Mills (S. C.)	96	100
Engle & Phenix Mills (Ga.)	117	
Esley Cotton Mills (S. C.)	162	175
Enoree Mfg. Co. (S. C.)	50	65
Enoree Mfg. Co. (S. C.) Pfd.	96	100
Enterprise Mfg. Co. (Ga.)	65	75
Exposition Cotton Mills (Ga.)	200	
Gaffney Mfg. Co. (S. C.)	57	62
Gainesville Cotton Mills (Ga.)	72	80
Glenwood Cotton Mills (S. C.)	130	150
Gluck Mills (S. C.)	99	
Granby Cot. Mills (S. C.) 1st Pfd.	35	45
Granville Mfg. Co. (S. C.)	140	145
Greenwood Cotton Mills (S. C.)	57	60
Grendel Mills (S. C.)	90	100
Hartsville Cotton Mill (S. C.)	160	
Henrietta Mills (N. C.)	160	175
Inman Mills (S. C.)	100	105
King Mfg. Co. J. P. (Ga.)	100	
Lancaster Cotton Mills (S. C.)	130	
Lancaster Cot. Mills (S. C.) Pfd.	97	100
Langly Mfg. Co. (S. C.)	104	112
Laurens Mills (S. C.)	120	125
Limestone Mills (S. C.)	155	160
Lockhart Mills (S. C.)	66	
Lockhart Mills (S. C.) Pfd.	90	100
Loray Cotton Mills (N. C.) Pfd.	95	
Marboro Cotton Mills (S. C.)	80	
Mills Mfg. Co. (S. C.)	100	108
Molton Mfg. Co. (S. C.)	86	



Monaghan Mills (S. C.).....	100	...
Monarch Cotton Mills (S. C.)....	105	110
Newberry Cotton Mills (S. C.)....	125	130
Ninety-Six Cotton Mills (S. C.)....	130	135
Norris Cotton Mills (S. C.).....	121	130
Olympia Cotton Mills (S. C.).....	90	...
Orr Cotton Mills (S. C.).....	90	93
Pacolet Mfg. Co. (S. C.).....	90	90
Pacolet Mfg. Co. (S. C.) Pfd.....	95	100
Parker Common.....	25	...
Parker Preferred.....	65	...
Pelzer Mfg. Co. (S. C.).....	168	...
Piedmont Mfg. Co. (S. C.).....	175	177
Poe Mfg. Co. (S. C.).....	110	115
Saxon Mills (S. C.).....	130	130
Sibley Mfg. Co. (Ga.).....	65	68
Spartan Mills (S. C.).....	120	130
Trion Mfg. Co. (Ga.).....	130	130
Tucapau Mills (S. C.).....	300	350
Union-Buffalo (S. C.) 1st Pfd.....	60	...
Union-Buffalo (S. C.) 2d Pfd.....	15	...
Victor Mfg. Co. (S. C.).....	110	115
Warren Mfg. Co. (S. C.).....	90	95
Warren Mfg. Co. (S. C.) Pfd.....	100	105
Washington Mills (Va.).....	23	...
Washington Mills (Va.) Pfd.....	105	110
Whitney Mfg. Co. (S. C.).....	110	110
Wiscasset Mills (N. C.).....	135	...
Woodruff Cotton Mills (S. C.)....	105	105
Woodruff Cotton Mills (S. C.)....	100	100
Watts Mills (S. C.).....	70	85
Williamston Mills (S. C.).....	110	125

## FINANCIAL CORPORATIONS.

Ark., Benton.—Official: The Bank of Benton, capital \$25,000, is organized with officers thus: J. S. Cargile, president; E. Y. Stinson, first vice-president; W. N. McClary, second vice-president, and M. F. Scott, cashier.

Ala., Montgomery.—The Montgomery Savings Bank, capital \$25,000, is reported being organized by Chas. L. Harold, Samuel Kaufman, Albert C. Davis, L. W. Martin, H. F. Martin, J. T. Letcher and John W. Roberts.

Ark., London.—The Merchants' Bank of London, capital \$10,000, is reported incorporated by W. H. Gerner, B. W. Porter and J. M. Martin.

Ark., Millville.—Reported chartered: The Co-operative Investment Co. of Millville; capital \$50,000; incorporators, C. A. Buchner, C. G. Atkinson, W. H. Burroughs and F. A. Stanley.

Ark., Marked Tree.—The Farmers and Merchants' Bank of Marked Tree, recently incorporated with \$10,000 capital, is reported to have elected officers thus: S. P. Thompson, president; B. F. Taylor, vice-president, and C. C. Sloan, secretary-treasurer.

Fla., Tampa.—The Guarantee Investment & Loan Co., capital \$25,000, has filed its charter; incorporators, D. S. Wells, J. A. Bedingfield, O. L. Knight, C. A. Edwards and M. G. Gibbons.

Ga., Ashburn.—The Turner County Trust Co. is reported being organized with \$50,000 capital.

Ga., Atlanta.—The Bankers' Trust Co. has published its charter; capital \$100,000; petitioners, Henry S. Johnson, Asa G. Candler, J. R. Smith, W. L. Cosgrove, W. D. Manley and Alex. W. Smith.

Ga., Bostwick.—Official: The Bank of Bostwick began business November 1 with R. H. McCrary, Athens, Ga., president; J. M. Preston, vice-president, and H. S. Kaylor, cashier.

Ga., Coolidge.—The Merchants' Bank of Coolidge, capital \$25,000, is reported incorporated by Walter Davis and Boykin Harrison, Cairo; H. H. O'Neal, Coolidge; E. Gibson and A. M. Watson, Thomasville.

Ga., Fairburn.—The Bank of Campbell County is reported to have made application for a charter. Business is expected to begin about November 26 with W. A. McCurry, president; R. P. McFarlin, vice-president; C. R. Harvey, cashier.

Ga., Kingston.—Official: The Citizens' Bank chartered; capital \$25,000; organizers, R. L. Griffin, L. O. Ligon, W. H. Griffin, B. B. Brinson, John D. Walker and G. C. Phillips. Business began October 15.

Ga., Millen.—Official: The Jenkins County Savings Bank chartered; capital \$25,000; T. Z. Daniel, president, Millen; E. S. Lane, vice-president, Blitch, Ga., and E. A. Thompson, cashier, Millen.

Ga., Bainbridge.—Reported chartered: The Citizens' Bank; capital \$30,000. Incorporators, L. O. Benton, Monticello; W. O. Powell, Cyrene; P. L. Morris, Reynoldsville; H. M. Graham, Brinson, and L. Ball and others of Bainbridge.

Ga., Rome.—The Commercial and Savings Bank of Rome, it is reported, expects to begin business about December 15 with directors thus: Dr. William De Lay, president; Bernard Hale, vice-president, and J. B. Childs of Gay, cashier; C. L. Wilkerson, J. M. Sanders and H. E. Kelley. John D. Walker is financial agent.

Ga., Gillsville.—Official: The Bank of Gillsville began business October 1 with R. H. McCrary of Athens, Ga., president; M. O. Gilmer, vice-president; T. A. Herndon, cashier.

Ga., Lyons.—The Farmers and Merchants' Bank is reported organized with \$25,000 capital. Among those interested are W. C. Oliver, J. P. Brown and Thompson Bros.

Md., Brooklyn.—Official: The Brooklyn-Curtis Bay Bank, recently opened, is a branch of the Annapolis Banking & Trust Co.

Miss., Walnut.—Official: The Bank of Walnut chartered; capital \$10,000; organizers, H. P. Luna, Luther Luna and J. T. Hines. Business is to begin about December 15.

Mo., Mountain Grove.—The Mountain Grove Building and Loan Association is reported to have filed articles of incorporation; capital \$100,000. Officers: Postmaster John W. Key, president; Mayor W. S. Candler, vice-president; E. J. Green, cashier of the First National Bank, treasurer, and F. W. Baker, secretary.

N. C., Candor.—The Bank of Candor is reported chartered; capital \$25,000; organizers, D. C. Erwing, J. C. Troy and others.

N. C., Durham.—Official: The W. C. Lindsay Company of Durham is a change from individual to incorporation; to do an insurance and real-estate business. Capital \$10,000. W. C. Lindsay, president and treasurer; Mrs. Annie G. Lindsay, vice-president, and R. L. Lindsay, secretary. Business is to begin immediately.

Okla., Alfalfa.—Reported chartered: The Alfalfa State Bank, capital \$10,000; incorporators, P. Breckenridge, A. M. Kelly of Eukly and W. B. Putnam of Alfalfa.

Okla., Elk City.—The Crescent Loan & Investment Co. is reported chartered; capital \$30,000; incorporators, G. F. Patterson and Frank Winters of Elk City, E. M. Scannell and J. W. Patterson of Clinton.

Okla., Lone Wolf.—Official: The First National Bank of Lone Wolf incorporated; capital \$25,000. Directors, C. H. Griffith, president; A. S. Griffith, vice-president; H. P. Griffith, cashier; E. C. Teape, assistant cashier, and J. A. Hyndman. Business began November 1. This is a conversion of the Bank of Lone Wolf.

Okla., Oklahoma City.—The Alliance Investment Co., capital \$60,000, is reported incorporated by Orville T. Smith, N. M. Kline and W. H. Caudill.

Okla., Tishomingo.—The American Loan Co., capital \$50,000, is reported chartered; incorporators, B. R. Brundage, Alexander Rennie and R. T. Looney.

Okla., Tishomingo.—Reported chartered: The American Loan Co., capital \$50,000; incorporators, B. R. Brundage, Alexander Rennie and R. T. Looney.

Okla., Wewoka.—The Security State Bank, capital \$15,000, is reported organized with directors thus: L. C. Parmenter, R. W. Parmenter, S. Parmenter, Holdenville, and C. E. Morgan and G. C. Crump of Wewoka.

Tenn., Estill Springs.—A new bank is reported organized with M. K. Dickens president, R. G. Byrom vice-president and C. B. Ashcraft cashier.

Tex., Austin.—An official letter confirms report that the Bankers' International Life Insurance Co. is being organized with \$100,000 capital; officers not yet elected. F. C. Hendrix is interested.

Tex., Bay City.—The Wm. E. Austin Abstract Co. is reported incorporated with \$500 capital stock by Wm. E. Austin, George Austin and W. L. McCamby.

Tex., Beaumont.—The Jefferson County Abstract Co. of Beaumont, capital \$10,000, is reported incorporated by L. R. Levy, G. W. Junker and J. S. Edwards.

Tex., Beaumont.—The Beaumont Investment Co. capital \$120,000, is reported to have filed its charter; incorporators, W. T. Jay, C. M. Ives, George D. Anderson.

Tex., Bogata.—The People's National Bank, capital \$25,000, is reported being organized with directors thus: E. C. Hutchings, T. J. Dozier, J. R. Harvey and H. C. Smily.

Tex., Mission.—Official: First National Bank of Mission chartered; capital \$25,000; organizers, J. C. Hardison, president; Chas. Volz, vice-president; Albert Sammons, Roy P. Conway and W. E. Nicholson. Business has begun.

Tex., Oak Cliff, P. O. Dallas.—The Oak Cliff State Bank & Trust Co., capital \$50,000, is reported to have filed its charter. Among the stockholders are J. P. Hatfield, Edwin Hobby, George T. Reynolds, W. M. Freeman, R. Y. Simpson, W. M. C. Hill, M. L. Morris, Ray Thomas, J. Edgar Finley and George A. Turner.

Tex., Port Aransas.—Reported that a new bank with \$50,000 capital is to be established in the Peterson building.

Tex., Richards.—The Richards State Bank is reported incorporated with \$10,000 capital

by R. L. Leinweber, J. J. Leeb, J. I. Bradley and others.

W. Va., Bluefield.—The Virginia Realty-Loan Co. is reported chartered; capital \$10,000; incorporators, F. M. Peters, J. S. Kahle, W. E. Ross, J. R. Laird and R. M. Garrett, Jr., all of Bluefield.

W. Va., Princeton.—The Princeton Bank is reported to have begun business; capital \$50,000; directors, George W. Lazenby, president; G. C. Bowling, cashier; W. L. Wilborn, Bird Yearwood and H. E. De Jarnotte.

W. Va., Winding Gulf.—The Winding Gulf Bank, authorized capital \$25,000, is reported to have begun business; John Faulkner, president; L. N. Frantz, cashier, and F. A. Hummel, assistant cashier.

## NEW SECURITIES.

Ala., Bessemer.—November 27, it is reported, an election is to be held to vote on water-works bonds.

Ala., Birmingham.—Reports state that \$300,000 of funding bonds will probably be issued.

Ala., Guntersville.—Reported that an election is to be held in Marshall county to vote on \$125,000 of road bonds.

Ala., Huntsville.—Official: Bids will be received by W. P. Monroe, clerk, until December 12 for \$130,000 of refunding bonds.

Ala., Mobile.—An official letter denies report that bond issue is contemplated in the near future. Laz Schwarz is Mayor and J. McMahon, secretary.

Ala., Piedmont.—Official: Bids will be opened on December 9 for \$25,000 of 5 per cent. 20-year electric-light and water-works bonds voted October 18; denomination \$500. P. W. Roberts is Mayor.

Fla., Fort Pierce.—According to press dispatches, a \$200,000 road bond issue has been signed by the commissioners of St. Lucie county.

Fla., Gulfport.—Press dispatches state that no satisfactory bids were received for the \$400 of 6 per cent. improvement bonds.

Fla., Jacksonville.—Bids will be received until 3 P. M. December 18, it is reported, for \$250,000 of 4½ per cent. municipal improvement bonds. Address Board of Bond Trustees.

Fla., Tallahassee.—Official: An election is to be held next month to vote on \$30,000 of bonds. Don Lowry is Mayor.

Ga., Athens.—Official: December 7 an election is to be held in Clarke county to vote on \$200,000 of courthouse, jailer's house and jail 5 per cent. bonds. Denomination \$1000. Dated January 1, 1912; maturity December 31, 1941. Address Board of County Commissioners, Tate Wright, clerk.

Ga., Augusta.—According to press dispatches, an election is to be held early next year to vote on between \$400,000 and \$500,000 of flood protection bonds.

Ga., Baxley.—Reported that \$15,000 of electric-light-plant bonds have been validated.

Ga., Canon.—November 22, it is reported, an election is to be held to vote on school district building bonds.

Ga., Fort Gaines.—December 7, it is reported, an election is to be held in Clay county to vote on \$30,000 of road bonds.

Ga., Quitman.—January 16, it is reported, an election is to be held to vote on \$75,000 of 4½ per cent. public improvement bonds.

Ga., Quitman.—January 16 an election is to be held, it is reported, to vote on \$23,000 of street, \$12,000 of fire department and \$40,000 of school-building bonds.

Ga., Thomasville.—An election is reported ordered to vote on \$50,000 of school bonds.

Ga., Waycross.—Press dispatches state that Ware county will petition commissioners for permission to issue \$150,000 of road bonds.

Ky., Lexington.—Reported defeated: \$70,000 of 4 per cent. Fayette county funding bonds.

Ky., Lexington.—Reported voted: \$130,000 of sewerage bonds.

Ky., Mt. Sterling.—Official: Bids will be received until noon November 24 by Chas. D. Grubbs, president board of trustees, for \$15,000 of 6 per cent. 1-15-year school bonds; denomination \$500.

Ky., Paducah.—Reported defeated: School bonds.

La., Baton Rouge.—Press dispatches state that an election is to be held to vote on a two-mill tax for 10 years in support of a \$75,000 school bond issue.

La., Crowley.—Press dispatches state that \$75,000 of 5 per cent. bonds of Sixth Ward and Crowley Drainage District have been sold.

La., Morgan City.—Reported voted: \$80,000 of water-works and sewerage bonds.

La., Lake Charles.—December 12, it is reported, an election is to be held to vote on \$124,000 of high-school bonds.

Md., Baltimore.—Preparations are being made for the sale of some of the city paving stock. Address City Comptroller.

Md., Towson.—The \$1,500,000 Baltimore county road bond issue is said to have carried. Address County Commissioners.

Miss., Bay St. Louis.—Official: The Hancock County Bank, Bay St. Louis, purchased on November 6 at \$26,925 and accrued interest \$25,000 of 6 per cent. 5-20-year Hancock county road and bridge bonds; denomination \$500. W. W. Stockstill is clerk Board of Supervisors.

Miss., Corinth.—Reported sold: \$7000 of school bonds.

Miss., Vicksburg.—Reported that on December 12 an election is to be held to vote on \$50,000 of high-school bonds, and January 23 on \$400,000 of water plant and \$100,000 of street-improvement bonds.

Mo., Excelsior Springs.—Reported defeated: \$15,000 of sewer bonds.

Mo., Pittsburg.—An ordinance is reported passed providing for the issuing of \$40,000 of water-works bonds.

Mo., St. Louis.—Chas. P. Mason, secretary and treasurer, Board of Education of St. Louis, confirms the report that he has purchased on behalf of the board \$179,000 of city bonds.

Mo., St. Louis.—Reported defeated: \$2,250,000 of bridge bonds. It is stated that steps are to be taken immediately to hold another election.

N. C., Asheville.—Press dispatches state that R. M. Grant & Co. of New York have been awarded at \$1725 premium the \$50,000 of Buncombe county refunding bonds.

N. C., High Point.—Press dispatches state that an election is to be held in High Point township, Guilford county, December 11 to vote on \$100,000 of 5 per cent. 30-year bonds in aid of the Randolph & Cumberland Railway.

N. C., Laurinburg.—Press dispatches state that the Board of Commissioners of Scotland County will soon ask bids for \$50,000 of Laurel Hill township and \$20,000 of Spring Hill road bonds.

N. C., Morehead City.—Official: Cutter, May & Co., Chicago, Ill., purchased at par \$20,000 of 5½ per cent. 25-year water-works bonds; denomination \$1000; dated March 1, 1911; maturity March 1, 1936. W. L. Arendall is Mayor.

N. C., Troy.—Official: Voted October 2: \$20,000 of 6 per cent. 30-year graded school district building bonds.

N. C., Winston-Salem.—December 26 an election is to be held in Salem to vote on \$15,000 of street and sidewalks, \$10,000 of sewerage and \$50,000 of school 5 per cent. 30-year bonds. F. A. Fogle is Mayor.

Okla., Braggs.—Official: Bids will be opened November 14 for \$20,000 of 6 per cent. water-works bonds; denomination \$1000. Address Board of Trustees. J. J. Johnson is Town Clerk.

Okla., Duncan.—Reported defeated: \$120,000 of Stephens county courthouse and road bonds.

Okla., Guthrie.—Reported that all bids received for the \$147,000 of park improvement and viaduct bonds were rejected.

Okla., Inola.—Reported voted: \$19,500 of water-works construction bonds.

Okla., Oklahoma City.—R. J. Edwards is reported to have been awarded at \$4100 premium \$200,000 of funding bonds.

Okla., Ponca.—Reported voted: \$30,000 of 5 per cent. 20-year electric-light bonds.

Okla., Pawhuska.—Strikeaxe township, Osage county, is reported to have voted \$30,000 of road-improvement bonds.

Okla., Tulsa.—City is reported to have sold \$284,000 of municipal improvement bonds.

Okla., Tulsa.—Press dispatches state that a special election will probably be held to vote on \$30,000 of Kendall College addition, and from \$200,000 to \$300,000 of high-school-building bonds.

Tenn., Bristol.—Press dispatches state that the Board of Aldermen has contracted with Cincinnati parties for the sale of \$40,000 of water-works bonds.

Tenn., Bristol.—Official: Regarding report that Sullivan county proposes to issue road bonds, an official letter says: "Have no bond issue at present."

Tenn., Jonesboro.—Official: Resolution has been adopted providing for the issuing and

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The American Mfg. Co. also makes Manila, Sisal and Jute Rope; India, Italian and American Hemp Marlines, and Fine Twines, Bag String, Compress Twine, Bale Rope, Lath and Fodder Yarn, etc. Write for samples and prices.



sale of \$60,000 of 5 per cent. 20-year Washington county road bonds. Denomination \$500. Dated January 1, 1912. E. B. Hensley is chairman and W. C. Leah, clerk, County Court.

Tenn., Halls.—November 14, it is reported, an election is to be held to vote on \$20,000 of street, sidewalk and sewerage bonds.

Tenn., Madisonville.—Official: Bids will be received until 10 A. M. November 28 for \$150,000 of 5 per cent. 15-25-year Monroe county road bonds; dated December 1, 1911. Address Chas. A. Lowry, secretary. J. B. Pennington is Clerk County Court.

Tex., Amarillo.—Official: Defeated: \$40,000 of Potter county jail bonds. Frank Wolfelin is clerk.

Tex., Austin.—The State Board of Education is reported to have purchased the following 5 per cent. independent school district bonds: Bay City, \$4000; Aransas Pass, \$5000; Myra, \$5000; Brocksmith, \$4000. For county common school districts, Clay county No. 9, \$3000; McLennan county No. 38, \$3500; Hopkins county No. 74, \$700; Tom Green county No. 16, \$1000; Fayette county No. 60, \$1500; Upshur county No. 50, \$700; Limestone county No. 8, \$1000; Crockett county No. 1, \$3000; Concho county No. 11, \$5000; Calhoun county No. 1, \$3000.

Tex., Austin.—The Attorney-General has approved the following securities: \$3000 of 5 per cent. 10-20-year bonds of Newton county common school district No. 8; \$2000 of 5 per cent. 20-year Rosenberg Independent school district bonds; \$100,000 of street-improvement bonds.

Tex., Beaumont.—Reported that on December 20 an election is to be held to vote on \$60,000 of paving, \$30,000 of sewer and \$60,000 of park bonds.

Tex., Big Springs.—An Eastern company is reported to have purchased \$100,000 of Howard county road bonds.

Tex., Bryan.—Steps are reported being taken to issue \$200,000 of 5½ per cent. 10-40-year Brazos county road-improvement bonds.

Tex., Clarksville.—J. R. Webb, City Clerk, is reported offering for sale \$10,000 of 5 per cent. 10-40-year water extension and improvement bonds.

Tex., Dunbar.—Reported voted: \$27,900 of Dunbar drainage district bonds.

Tex., El Paso.—Reported voted: \$40,000 of El Paso county courthouse bonds.

Tex., Greenville.—Reported sold: \$85,000 of 5 per cent. water-works extension bonds.

Tex., Houston Heights.—Cutter, May & Co., Chicago, and the Southland Company, Kansas City, are reported to have purchased at par \$180,000 of street bonds; dated January 1, 1912.

Tex., Paducah.—Official: Bids will be received until 3 P. M. November 27 for \$27,000 of 5 per cent. 10-40-year street-improvement bonds. Address W. H. Abernathy, Mayor.

Tex., Frisco.—Official: A. J. Hood & Co., Detroit, Mich., purchased on October 2, at \$13,507.50, the \$13,500 of 5 per cent. 20-40-year Frisco Independent School District bonds voted March 11, 1911; dated May 1, 1911; denomination, 13 bonds of \$1000 each and one of \$500. F. P. Scramer is secretary.

Tex., Vanderbilt.—Reported voted: \$76,000 of bonds of drainage district No. 1.

Tex., Vernon.—County Superintendent of Schools is reported offering for sale \$7000 of school bonds.

Tex., Waco.—An official letter says: "No bond issue authorized; only being discussed." H. Blintrot is Mayor.

Va., Lynchburg.—An ordinance is reported passed by the City Council providing for the issuing of \$650,000 of street-improvement bonds.

W. Va., Cairo.—The Board of Education of Cairo School District is reported receiving bids for \$30,000 of 6 per cent. school building bonds; denomination \$500.

W. Va., Keyser.—The First National Bank of Keyser is reported to have been awarded at \$640 premium \$22,000 of 5 per cent. Mineral county bonds.

W. Va., Union.—Reported that an election is soon to be held to vote on \$25,000 of independent school district building bonds.

W. Va., Wheeling.—December 5 an election is to be held to vote on \$300,000 of filtration plant and playground bonds.

At Paducah, Tex., bids will be received until 3 P. M. November 27 for \$27,000 of 5 per cent. 10-40-year water-works bonds. Further particulars will be found in the advertising columns.

At Huntsville, Ala., bids will be received until December 12 for \$130,000 of refunding bonds. Further particulars will be found in the advertising columns.

### FINANCIAL NOTES.

The Temple State Bank, Temple, Tex., is reported to have increased its capital from \$50,000 to \$500,000.

The Merchants' State Bank, Port Arthur, Tex., is reported to have decided to increase its capital to \$50,000.

The Falfurrias State Bank, Falfurrias, Tex., is reported to have amended its charter, increasing its capital from \$10,000 to \$25,000.

The Senate, according to press dispatches, has passed a bill providing for the refund of such Mississippi State bonds of the \$900,000 issue dated July 1, 1910, as may be presented for redemption.

According to press dispatches, articles of incorporation were filed at Little Rock, Ark., for the Home Life & Accident Co., which represents a merger of the Home Life & Casualty Co. and the Home Accident Co.

The American Cotton Oil Co. has declared a semi-annual dividend of 3 per cent. upon its preferred stock, payable December 1, 1911, at the banking-house of Winslow, Lanier & Co., 59 Cedar St., New York. Justus E. Ralph is secretary. The annual meeting of the stockholders will be held December 7.

### GO SOUTH!

FOR SALE Timber, Phosphate, Coal, Iron, Farm, Ranch, and Other Properties and Investments, in Southern States, Cuba and Mexico.

SOUTHERN STATES DEVELOPMENT CO.  
GEO. B. EDWARDS, President,  
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Connections in the Principal Cities of Europe

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Price per 1000 in lots of	5000	10000	25000
Six line Billheads	.85	.72	.64
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Statements 5½x8½ inches	.92	.79	.71
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Letterheads unruled, 7x8½	.99	.86	.78
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THE BOARD OF DIRECTORS OF THE American Cotton Oil Company, on November 9, 1911, declared a semi-annual dividend of THREE PER CENT. upon the Preferred Stock of the Company, payable December 1, 1911, at the Banking House of Winslow, Lanier & Co., 59 Cedar Street, New York City. The stock Transfer Books of the Company will be closed on November 16, 1911, at 3 P. M. and will remain closed until December 8, 1911, at 10 A. M. JUSTUS E. RALPH, Secretary.

THE ANNUAL MEETING OF THE STOCKHOLDERS OF The American Cotton Oil Company will be held at the principal office of the Company, the Refinery, near Guttenberg, Hudson County, New Jersey, on Thursday, the 7th day of December, 1911, at 12 o'clock noon, for the purpose of electing Directors and for the transaction of such other business as may properly come before the meeting. The Stock Transfer Books will be closed on November 16, 1911, at 3 P. M. and will remain closed until December 8, 1911, at 10 A. M. By order of the Board of Directors. JUSTUS E. RALPH, Secretary.  
New York, November 9, 1911.

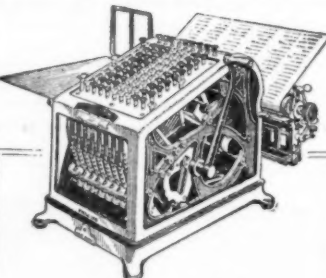
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Will loan on security requiring special investigation or close supervision, and not available for bank loans. Large enterprises financed. Prompt investigation of security offered, whatever its character or location.

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Here is the CONSERVATIVE investor's opportunity to participate in big, sure profits earned by the new COTTON COMBING GIN—the device which is gradually replacing the old-style Saw Gin.

We are increasing the capital of our profitable going plant in order to install additional machinery so that we can manufacture all parts of Gin outfits and increase our output.

Our earnings will be trebled by this increased capacity.

Our COMBING GIN is the first PRACTICAL IMPROVEMENT on the old cotton Saw Gin invented by Eli Whitney in 1792. The advantages of our COMBING GIN are:

REDUCTION of waste to a minimum.

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HANDLING wet, lumpy seed cotton and bolls that cannot be handle by any other Gin.

Hundreds of our Gins have been in use for more than two years, and are giving profitable results.

Our book, "A Primer of the Cotton Combing Gin," sent free on request, shows you how your investment is amply secured by our assets and by the scope of our patents; gives full information as to who we are and how the big profits are absolutely assured to investors in this proposition.

\$100,000 worth of our stock is offered at \$100 per share, full paid and non-assessable.

Subscriptions for one to 100 shares will be accepted—not more than 100 shares will be issued to any one party. Arrangements can be made on a monthly payment basis, if desired.

Our present capital is \$150,000, fully paid.

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SOUTHERN COMBING GIN  
CO., Chattanooga, Tenn.

REFERENCES—Any Bank in Chattanooga.

Subscriptions and checks should be sent to our fiduciary agent, the

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CHATTANOOGA, TENN.

Careful investigation of this proposition is solicited.

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Norfolk

Petersburg

Portsmouth

Suffolk

## The Gateway To The South

### Virginia Railway and Power Company

is a firm believer in the territory occupied by these cities.

It has expended large sums of money in order to enable it to give to these communities the unexcelled facilities they now enjoy of

**A Cheap and Comprehensive Transportation System and Low Rates  
for Lighting and Electric Power for Large and Small Consumers.**

**Norfolk** with their superb harbor and unlimited water front property for manufacturing and mercantile businesses and rail and water lines in every direction,  
**and**  
**Portsmouth**

**Richmond** the open highway through which pass all of the large trunk lines  
**and**  
**Petersburg** between the South to the Northern markets,

together make a superb gateway to a section of country abounding in natural resources, of inestimable wealth, and overflowing with opportunities for the profitable use of money and energy.

This will be a great center of manufacturing and commercial enterprises, because the port at Norfolk and Portsmouth is the nearest port to a larger area of the United States than any other port on the Atlantic Coast.

The harbor is open all the year.

An unlimited supply of deep water-front property available for business and manufacturing sites.

Water power and cheap electric power.

Nearness to the markets of the North and West, and the raw materials of the South for manufacturing.

Rich agricultural territory insures a source of permanent wealth.

The richest coal fields of America are brought in direct touch by three great competing railway systems.

Healthy climate and many other reasons combine to make this a territory rich in industrial and commercial opportunities.

We believe so firmly that this territory has so many advantages and will become so prosperous as a center for manufacturing and mercantile business that we have bought a page in the Manufacturers Record, every other week, for the next twelve months, and will try to show why business men should come and make their homes and fortunes here.

### Virginia Railway and Power Company

RICHMOND

NORFOLK

PETERSBURG

PORTSMOUTH

SUFFOLK

### VIRGINIA



# Classified Opportunities

## MEN WANTED

**SALES AGENTS** to sell feed-water heaters, evaporators, condensers and other power-plant equipment; guaranteed territory; commission. Address Fisher, 90 West St., New York City.

**WANTED**—Traveling or local men; all sections of the country; profitable side line; commission or salary; good men average \$100 weekly. For particulars address The Sun Chemical Company, Richmond, Va.

**SALESMEN** wanted to sell best-known vegetable boiler compound on the market; used all over the United States. Wrinkle Paint Mfg. Co., Columbus, Ohio.

**AGENTS WANTED** to sell lubricating oils, belts, hose, paint, varnish, to contractors, auto owners, mills, factories, etc. Exclusive territory to right party. Oil experience unnecessary. Manufacturers' Oil & Grease Co., Cleveland, Ohio.

**WANTED**—Good business man or machinist to invest \$3000 to \$5000, with services, in Southern company making patented corn mill. Can't fill all the orders and must increase capacity. Ground-floor opportunity. Address No. 884, care Manufacturers Record.

**WANTED**—At once, good draughtsman, surveyor and civil engineer who wants to connect permanently with large industrial corporation; must become a stockholder in company and serve as confidential man. Give full particulars and references in first letter. Address Manager, Office 711-68 Hudson St., Hoboken, N. J.

**WANTED**—A partner with capital to take full charge of managing the office in the manufacturing of steam specialties, patented, and well marketed; also engineering work. Address No. 881, care Manufacturers Record.

**SALESMAN**—An excellent opportunity for a bright, snappy salesman to represent, on a strictly satisfactory commission basis, a first-class leather belting manufacturer, with specialties. No use for any but good men, and references must accompany application. The Ulmer Leather Co., Norwich, Conn.

**AGENTS FOR FLORIDA CITRUS AND VEGETABLE LANDS**.—Responsible men wanted to sell land on commission basis. Our property is in the Tampa district near the Gulf of Mexico, the recognized location for growing to best advantage citrus fruits. Every variety of productive soil. Suitable for truck growing and general farming. Property divided in ten-acre tracts. Write D. F. Conoley, President Tampa & Tarpon Springs Land Co., Tampa, Fla.

## AGENCIES WANTED

**AGENCY WANTED**.—A well-established firm of St. Louis wants one or two more good agencies from some good reliable manufacturer of railroad specialties; can give best of references. Address No. 888, care Manufacturers Record.

## SITUATIONS WANTED

**SUPERINTENDENT** or general foreman of building construction is open to an engagement on any class of building. Address No. 886, care Manufacturers Record.

**SITUATION** as office, credit or sales manager in Southern or Southwestern city; up-to-date methods; best references for qualifications and ability. Address W. C. Darrow, Gen. Del., Richmond, Va.

**EXECUTIVE** position wanted by American knowing four languages, who has traveled in foreign countries for a number of years and has excellent knowledge of business conditions abroad. At present with large corporation in this country. Will go anywhere. Address No. 889, care Manufacturers Record.

**A JOB WANTED** by a man with ten years' successful experience in handling large contracts for machinery and mechanical goods; competent to handle sales department or branch house. Address No. 885, care Manufacturers Record.

**AN EXPERIENCED** commercial secretary, now employed, desires change; best of reasons; ten years' railroad experience, including four years traveling; familiar with every department; legal, newspaper and policy experience; very best references as to general standing and result-producing ability. Address No. 876, care Manufacturers Record.

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**RENSSELAER POLYTECHNIC INSTITUTE, TROY, N. Y.**—Courses in Civil, Mechanical and Electrical Engineering, and General Science, leading to the degrees of Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), and Bachelor of Science (B.S.). Special courses in engineering and science. Splendidly equipped new engineering laboratories. Send for catalogues to Registrar.

**WASHINGTON COLLEGE FOR YOUNG LADIES**.—Located at the nation's capital, with all the attendant advantages, both educational and social; in the city, but with a campus of 10 acres; charming home life; an ideal school in every particular. Write for catalogue. F. Menefee, President, Third and T Streets N. E., Washington, D. C.

**Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 24 lines. Allow seven words per line. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year, as follows: 100 lines, 18c. per line; 300 lines 16c. per line; 500 lines or more, 15c. per line.**

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**THE PALMETTO NATIONAL BANK, Columbia, S. C.** capital \$250,000, solicits accounts of banks, firms, corporations and individuals, either commercial or savings accounts.

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**TO EXTEND A RAILROAD** now operating 17 miles; good bonus offered for extensions; best agricultural country; 5000 bales cotton this season; timber and coal in abundance. Write for particulars. Address No. 877, care Manufacturers Record.

## BUSINESS OPPORTUNITIES

**WANTED**—Some firm to manufacture my new liquid dispensing machine on royalty, or will sell outright; patent granted Feb., 1911; a money-maker. Rollyn H. Baker, Dayton, O.

**BUSINESS WANTED**.—Am looking for a good business for my son. Any business offered must stand investigation. Address M. Record, Box 976, Cherry Valley, Illinois.

**FOR SALE**—Newspaper and job plant; only one in county; electric power; linotype and full equipment; present owner in bad health. Apply at once. J. L. Hurst, Eaton, Ga.

**WANTED**—Man with a little money and plenty of push and get-up to join me in the best land and town-lot proposition to be had anywhere, take charge of same, develop and put it on the market; located in the great health-giving section of North Carolina, on the A. C. L. R. R., with station on the property, near Southern Pines; big future for someone to make plenty of money; very fine location for hotel and store. So if you want to combine health with wealth, write me for full information. A. L. Bain, Greensboro, N. C.

**WE CONTROL ABOUT 35,000 ACRES** over pine lands that can be bought cheap. We have an A-1 plan for development. If you have capital and interested, write for particulars. Smith & Webber, Panama City, Fla.

**IF YOU** have tracts of good standing timber for sale and can guarantee to be as represented, we can find a buyer. At present we are having many calls for good tracts, and if you have one, take it up with us. Branchville Timber Co., Branchville, Va.

**FACTORIES LOCATED**, factory buildings in the principal cities to rent, factories, saw-mills, flour mills, warehouses, real and personal property sold or exchanged. Timber, grazing and farm lands sold or exchanged. Properties cared for, rents collected. Office space, desk rooms and Chicago addresses arranged for. High-class manufacturing stocks and bonds for sale and exchange. Offer what you wish to sell, inquire for what you wish to buy. Negotiations confidential. Business promptly executed. Correspondence invited. Kreis & Company, 167 W. Washington street, Chicago, Ill.

## MAPS AND BLUE PRINTS

**MAPS OF TEXAS COUNTIES**.—We make blueprint maps of nearly all Texas counties and several Louisiana parishes. Write for prices on those desired. Singleton Bryan & Co., Beaumont, Texas.

## TYPEWRITERS

**IF YOU** are interested in purchasing a high-grade typewriter and do not care to invest \$100 asked by the manufacturers, we would like you to investigate our remanufactured machines. Three days' trial allowed. Enterprise Exchange, Inc., 600 E. Baltimore street, Baltimore, Md.

## MAILING LISTS

**WE CAN FURNISH ANY MAILING LIST** you desire. State classification. Commercial Sales & Mfg. Co., Dept. M, Oberlin, Ohio.

## LOCATIONS SECURED

**I CAN FIND YOU A LOCATION** for your sawmill or slack-barrel stove factory. Write for particulars of my plan and tell me about what you want. Jo A. Parker, Parma, Mo.

## LOCATION WANTED

**MASSACHUSETTS CORPORATION**, manufacturing well-established and popular line of medium-priced automobiles, light and heavy commercial cars, are desirous of locating at some central point in the South where there is plenty of skilled labor, best of shipping facilities and some additional working capital can be obtained. Have an exceptionally attractive opening for a live, energetic man with capital. Edward Wilbur, 125 Summer St., Boston, Mass.

## FACTORY SITES

**FREE SITES** and other liberal assistance; cheap fuel; natural gas, oil, coal and abundant water; six railroads. Address Chamber of Commerce, Wichita Falls, Texas.

## INDUSTRIES WANTED

### MISCELLANEOUS

**LAREDO, TEXAS**, wants a tourist hotel, cement factory, up-to-date educational institution, down-the-river railroad. Laredo has cheap fuel, coal and natural gas, equable climate, abundant water, cheap labor. Address Secretary Board of Trade.

**SUFFOLK**.—The best manufacturing and distributing point in Virginia; six railroads and water transportation; plenty of labor; cheap fuel; electric power; seventy manufacturing plants in successful operation; opportunity for furniture and woodworking plants and any wholesale jobbing or manufacturing business; center of tidewater; richest farming section to be found; healthy; excellent schools and churches; filtered water, gas and sewer. Write Board of Trade, Suffolk, Va.

**CLEVELAND, TENN.**, WANTS YOU.—The best town in the Southeast, with a hydro-electric development of 32,000 initial horsepower for manufacturing purposes, final development 32,000 horsepower. Free manufacturing sites; exemption from city and county taxes; ample railroad facilities; springs water pumped to all parts of the city; cheap raw materials; 186 miles of pike roads in county; fine farming and trucking section; best of public utilities; cheap white labor; cheap power; ideal location for cotton mill, furniture factory and brick-manufacturing plant; good climate; most rapidly developing city in the Southeast. Write Commercial Club, Cleveland, Tennessee.

**WANTED**.—Asheville, N. C., 31,000 population, including suburbs; 35 miles paved streets; best water on earth; men with capital to invest in money-making enterprises; good opening for manufacturing enterprises. Write Board of Trade.

**VICTORIA, TEXAS**, head of navigation of Guadalupe River; center of cotton, corn, truck and citrus fruit-growing district of South Texas; country rapidly developing; opportunities for many industries. If interested in the coastal section of Texas, write for booklet "D" to the Secretary of the Progressive League.

**"BUSIEST AND BEST BUILT CITY IN TEXAS."** Wichita Falls possesses unsurpassed natural resources and advantages. Offers exceptional opportunities for investors; free sites for manufacturing establishments; cheap fuel; natural gas, oil, coal, electricity and abundant water from the largest body of water in Texas; six railroads; raw material at hand; latest approved public utilities; creosoted wood block pavement throughout business section; over fifty miles concrete sidewalks. Most rapidly developing city in Southwest. Handsome booklet and detailed information upon request. Address Chamber of Commerce, Wichita, Falls, Texas.

## INDUSTRIAL PLANTS FOR SALE

### ROTARY VENEER PLANT

**WANTED**—A buyer for rotary veneer plant; 1½ acres land, office, factory and storage buildings, complete, with side track; good timber; good railroad facilities; can be had at a bargain. Address Gilkey Veneer Co., Marion, N. C.

### FLOUR AND GRIST MILL

**A BARGAIN FOR QUICK PURCHASER**. A flour and grist mill, capacity 20 barrels per day; water and steam power; three-story mill; mill works new; twenty acres of land improved by a seven-room house; water at door; part of land in good state of cultivation; mill property at junction of five roads; two miles from railroad station; quality of flour very good and in good demand; neighborhood first class. Address George L. Stockdale, Trustee for C. H. Van Cleef and wife, Westminster, Md.

## FACTORY BUILDING

**SMALL FACTORY BUILDING FOR SALE OR RENT**, located in Knoxville, Pa., on two railroads and having natural gas and other advantages; building is two stories, 50x130 feet, with additions; railroad switch right at door of factory. For full information address F. D. Freeborn, Knoxville, Pa.

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**WRITE for list** New Orleans residence lots and factory sites; Louisiana mineral, timber, cut-over and farm lands. Orient Co., Ltd., 513 Audubon Bldg., New Orleans, Louisiana.

**A REAL BARGAIN**.—Modern suburban home capital city of Florida; three lots, each 85 ft. front by 150 ft.; new 10-room house with gas, electricity, water and sewerage; wire screened both floors; ideal neighborhood; State officers on either side; perfect title; price \$5000. M. C. McIntosh, Attorney-at-law, Tallahassee, Fla.

**FOR SALE**—Boundary of 256,000 acres in State of Durango, Mexico; good ranch, mineral and timber land; contains 500,000,000 feet yellow pine; railway building within 25 miles of lands; 25-mile tramway to new railway can be built at small cost; 100 miles to Pacific port of entry by rail, for ship-loading for use of Panama Canal route and for all American and European shipping markets. We control and can deliver promptly this valuable boundary for \$2.50 per acre; one-fourth down; one, two and three years for balance. Principals only need reply. Address for particulars, J. C. Lindley, Greensboro, N. C.

**FACTORY SITES**, Business Property, Residences and Farms. If interested in the metropolis of the Southwest or its territory, write for free land list and booklet on Houston, Texas (where 17 railroads meet the sea), or make your wants known. Bank references if desired. Central Land Co., 303 Theater Bldg., Houston, Texas.

## COAL AND TIMBER LANDS

**FOR SALE**—600 acres of coal and timber land, situated in Owsley county, Kentucky, 6 miles south of Booneville, on Indian Creek waters of the South Fork Kentucky River, and 3 miles from said river. This land contains over 6000 merchantable trees and is underlaid with a good workable seam of coal. Has a natural-gas spring that could be confined to run machinery. 90 acres of this land is a fertile valley under cultivation. Has a 6-room log dwelling, good barn, good chicken-house, and two other large storage buildings. A splendid orchard containing over 100 bearing apple trees, and a young orchard containing 100 trees of different varieties. This land is situated within 12 miles of two railroads and within 17 miles of slack water. The timber alone when marketed will net the amount I ask for the place. After the timber is removed the land may all be cultivated, and contains the very richest cove land. My price is \$15,000 net. Thos. L. Gabard, McIntosh, Fla.

## TIMBER LAND FOR SALE

**120,000 ACRES MAHOGANY TIMBER IN OLD MEXICO**. Location, price and terms make it a veritable gift for quick action. Power & Brooks, Box 82, Montgomery, Ala.

**2300 ACRES** Florida cypress timber land, containing excellent mill site on navigable water and railroad. C. N. Joyce, 363 Calvert Building, Baltimore, Md.

**MILLIONS IN IT**.—36,000 acres pine timber land in Mexico, near U. S. border; great milling or investment proposition; only \$2 per acre; easy terms; nothing else like it in America. M. F. Simmons, Kansas City, Mo., 209 Scarritt Arcade.

**FOR SALE**—Two tracts of hardwood timber, consisting of poplar, all kinds of oak, chestnut, hemlock, cucumber, ash, lynn, etc., mostly virgin forest; one tract on Norfolk & Western and other on Carolina, Clinchfield & Ohio Railroad, in Southwest Virginia; about 10,000,000 feet in both tracts. D. C. Lamplin & W. W. Bird, Carterton, Virginia.

**FOR SALE**—Timber, original long-leaf yellow pine; about 1000 acres; 10,000 feet to the acre; two miles from Baden, Ga.; South Georgia Railroad; not turpentine; large, long, fine heart timber and easily accessible; land dry and healthy; plenty good water; above of 8000-acre estate; part of balance being boxed; owners will sell later; good location for mill. O. P. Willingham, Jr., Macon, Ga.

**FOR SALE**—Oak and hickory timber land in Virginia; 511 acres well set in white and mixed oak and hickory; estimated 500,000 feet saw timber, 30,000 white-oak ties, 250 cords hickory-spoke timber; would also cut a big lot oak piles; good logging and excellent farming land if cleared; eight miles to railroad; good road; must sell; will take \$7000 if sold at once. For particulars write H. P. Baker, Columbia, Va.

## TIMBER FOR SALE

**TIMBER**.—I have for sale 370 acres of choice forest oak and pine timber, estimated to saw 3,000,000 feet of lumber, two miles from nearest railroad station. Apply to Alexander Barber, Fort Mill, S. C.



# Classified Opportunities

## CUT-OVER TIMBER LANDS

**CUT-OVER TIMBER TRACTS.**  
 50,000 acres cut-over pine lands, Miss. .... \$6.50  
 20,000 acres cut-over pine lands, La. .... 6.00  
 25,000 acres cut-over pine lands, Tex. .... 5.00  
 15,000 acres cut-over hardwoods, La. .... 4.50  
**Marsh Lands for Reclamation.**  
 60,000 acres in a body, Gulf Coast of La. 3.00  
 Timber Lands.  
 20,000 acres L. L. Y. pine, Fla., cut 5500 ft. 7.00  
 15,000 acres L. L. Y. pine, Ala., cut 7000 ft. 21.00  
 30,000 acres hardwood, cut 10,000 ft. (60% red gum) ..... 10.00  
 Finest red gum proposition South.  
 Wm. R. Taylor, 608 Perrin Bldg., New Orleans, La.

10,730 ACRES Louisiana hardwood timber lands, 104,000,000 ft., on Sabine River, \$15 acre.  
 20,000 acres rich dark bottom cut-over hardwood, S. W. Arkansas, lands on Ry., \$4 acre.  
 36,000 acres Louisiana cut-over lands, \$5 acre.  
 Robert Sessions, Winthrop, Ark.

## FARM AND TIMBER LANDS

**FARM AND TIMBER LANDS.**—We have attractive offerings in farm, yellow pine and hardwood timber lands. We also handle coal and ore properties. Correspondence from interested parties invited. Provident Trust & Security Co., Land Dept., Walton Bldg., Atlanta, Ga.

**AGRICULTURAL TIMBER LANDS FOR SALE.**—We have four tracts of hardwood timber, 1700 to 3500 acres, on which the timber will pay more than double the cost of the land, and all are in the very best farming districts of Texas, on or within three miles of railroad towns, and can be subdivided after the timber is cut off and sold for farms. Price \$12 per acre; easy terms. Write for full particulars. T. H. Barrow & Sons, Austin, Texas.

**ARE YOU INTERESTED IN LAND?** If you would like to see descriptive lists of the best farm and timber lands on earth, in Arkansas, Mississippi and Louisiana; land rents from \$5 to \$12 per acre; prices from \$10 per acre up. Hurst Trust Co., Nos. 3 and 4 Porter Bldg., Memphis, Tenn.

**FOR SALE.**—Large and small plantations in the rich Red River Valley, cheap and on easy terms; also large tract of hardwood. Apply to E. J. Iles, Alexandria, Louisiana.

**I HAVE BARGAINS IN TIMBER TRACTS.** large colonization propositions, cut-over lands and reclamation tracts in any size wanted up to 150,000 acres from \$2.50 per acre up.  
 Wm. R. Taylor, Land and Timber Investments, 508 Perrin Building, New Orleans, La. Established 1898. Sales over \$6,000,000.

**FOR SALE.**—5000 acres, East Texas, frontage three miles on river; 12,000,000 feet hardwood timber on tract, 50 per cent. of same white oak; 2000 acres of tract rich bottom land; 75 per cent. of entire tract tillable when cleared. Price \$7 per acre. Railroad runs through land. This is a fine investment, as timber will pay for land twice over. 13,780 acres in South Texas, black sandy land, with frontage of several miles on river. This is one of the finest tracts of land in South Texas, well improved, and plenty of water over entire tract of land. Price \$15 per acre, and a great investment for capital. Title to both tracts perfect. Address Kendall & Wilson, Palestine, Texas.

**TIMBER LAND FOR SALE.**—1302 acres in North Carolina that will cut 7000 feet per acre, with a railroad surveyed through one side; 1800 acres in Tennessee along same line of railroad that will cut 8000 feet per acre; a rare bargain to be had in these lands. Also have an onyx quarry at a bargain; the stone cannot be excelled for beauty of figure and takes a very high polish; nothing to compare with it as an interior finish or decoration. For particulars address W. A. Owens, Lafollette, Tenn.

**200-ACRE RANCH** in Central Missouri, Morgan county; all under fence; lots of water in wells and springs; a fine grass proposition and the home of cattle and sheep, and now pays a good income. Price, \$12.50 per acre. McConnel, Elsmore, Kansas.

## FARMING LANDS

**WE OWN** and offer for sale on easy terms more than 100,000 acres of farming lands in Louisiana and Mississippi. Anyone interested in Southern investments should write us direct and save the middleman's profit. The Lampton Realty Co., 405 Ibero Bank Building, New Orleans, Louisiana.

## FARM AND RANCH LANDS

90,000 acres Durango,	price \$1.75 per acre
30,250 acres Coahuila,	price 2.25 per acre
50,250 acres Coahuila,	price 2.00 per acre
100,000 acres Sonora,	price 3.00 per acre
375,380 acres Durango,	price 3.00 per acre
162,783 acres Chihuahua,	price 2.00 per acre
135,147 acres Durango,	price 3.00 per acre
230,000 acres Coahuila,	price 1.50 per acre
3,500,000 acres Chihuahua,	price 2.50 per acre
95,000 acres Chihuahua,	price 2.00 per acre
30,500 acres Tamaulipas,	price 3.50 per acre
70,000 acres Chihuahua,	price 1.50 per acre
38,000 acres Chihuahua,	price 3.50 per acre
100,355 acres Tamaulipas,	price 2.25 per acre
179,648 acres Tamaulipas,	price 2.25 per acre
80,250 acres Coahuila,	price 2.75 per acre
1,155,640 acres Tamaulipas,	price 2.50 per acre
1,384,365 acres Sonora,	price 75 per acre
191,000 acres Sonora,	price 75 per acre
40,000 acres Durango,	price 4.50 per acre
20,000 acres Durango,	price 2.00 per acre
100,000 acres Sinaloa,	price 5.50 per acre

Cas & Fry, 30 City National Bank Building, El Paso, Texas.

## COLONIZATION LANDS

**COLONIZATION LAND IN SOUTH GEORGIA.**—We have on the Atlantic Coast Line Railroad, between Tifton and Waycross, Ga., several nice tracts for colonization. We can sell you five, ten, to fifteen thousand-acre tracts, none of it farther than four and a half miles from railroad station. This is high-class farm land, and will bear close investigation. Write C. L. Parker, Tifton, or McLendon Brothers, Atlanta, Ga.

**TRACT FOR COLONIZATION.**—12,000 acres in Lavaca and Jackson counties, Texas; 55 per cent. tillable; black waxy and black sandy land. On both sides of Lavaca River. Numerous settlements and good wells of water on tract; all subdivided and ready for colonizing. Will give good terms on this tract. Emil Locke, No. 712-13 Gibbs Bldg., San Antonio, Tex.

**AM offering** several small colonization tracts of exceptional merit and value. "Pine Crest" and "Guilford Farms," total about 1000 acres; all surveyed into five-acre lots; mapped; illustrated booklets issued; near good town with hard-surfaced road connecting; beautiful lakes; settled country; price \$13.50 an acre; could include 1000 acres adjacent or nearby, not subdivided, at \$3. Easy terms. Nothing better in Florida. Frank H. Davis, Apopka, Orange Co., Florida.

## PECAN ORCHARDS

**FIVE-ACRE PECAN ORCHARDS IN ALABAMA.**—I am offering fifty tracts of this size to the first fifty buyers. Now is your opportunity to get a start in this profitable business on easy terms. Monthly payments if desired. I can furnish best of references, and, if preferred, will manage tracts for non-resident owners. Write for full particulars and terms. Oscar V. Case, Fort Payne, Ala.

## ORANGE GROVES

**FOUR ORANGE GROVES** on Clearwater Bay, in sight Gulf Mexico. Prices of each, \$6000, \$5500 and \$4500. M. J. McMullen, Largo, Hillsborough Co., Florida.

## CABBAGE PLANTS

**AN ACRE OF CABBAGES** near a town or village will net over two hundred dollars. We have twenty-five acres in cabbage plants of all improved varieties, grown in the open air, and are positively frostproof. Will make large heads. Price, 1000 to 5000, \$1.25 per thousand. Special prices over 5000. Packed in neat boxes and tied in bunches if desired. Special express rates. The Sea Island Plant & Seed Co., Meggetts, S. C.

## FARM, FRUIT AND TRUCK LANDS

### ARKANSAS

**500 ACRES;** good residence; 65 acres in cultivation; half mile railroad station; soil sand and dirt mixed; price \$12.40 per acre. 180 acres, 70 acres in cultivation; one residence and one tenant-house; 1½ miles from railroad; price \$1800. J. R. Haygood, Arkadelphia, Ark.

**SOUTHEAST ARKANSAS** is the best farming section of the State. I have for sale several good places, as well as a fine plantation, near Eudora, in Chicot county. For further information address Dr. S. A. Scott, Box No. 99, Eudora, Ark.

### FLORIDA

**ORANGES,** grapefruit and tangerine groves, trucking and agricultural lands, building lots, improved and unimproved property on the fruitland peninsula, and in the garden spot of Florida. For pamphlet and other information address G. T. Graham, Crescent City, Florida.

**FLORIDA FRUIT AND TRUCK LANDS.**—We offer 10-acre tracts in that part of the State of Florida lying in Hillsborough county and Lake Butler region, in the Pinellas peninsula, on the west coast of Florida, on the Gulf of Mexico; with its elevation and rolling hills is especially suited for fruits of all kinds—grapefruit, oranges, grapes, dates, figs, bananas, peaches and other fruits, as well as vegetables, potatoes, corn, beans, peanuts and all the varieties that can be produced anywhere. The Tarpon Springs district offers the most favorable conditions for farmer, home seeker and investor. Fertile lands in small tracts, easy monthly payments; guaranteed title. Investigation invited. If you want a bargain and a home in the most desirable part of Florida, write now for particulars and reservation. Tampa & Tarpon Springs Land Co., Tampa, Florida.

**WHY PALMETTO LEADS.**—The 800,000 oases of fruits and early vegetables attests the superiority of soil, climate and irrigation necessary to produce such crops. The ease with which such crops are handled by rail and water make it an ideal place for fruit and vegetable growing. The Manatee River, Terra Cina and Tampa bays furnish ideal salt-water fishing, boating and bathing. For further information address The Manatee River Board of Trade, Palmetto, Florida.

**FLORIDA FARM, 1200 ACRES RECLAIMED LAND,** ready for cultivation; drained direct into Biscayne Bay; county rock road; railroad station on property; crop from 300 acres planted this winter will net half as much as price asked for all. Thos. J. Peters, Perrine, Dade Co., Fla.

**FLORIDA FARMS ARE FORTUNES.**—Our soil similar to fertile sections Iowa, Missouri; easy-payment plan. Write for booklet. Milton Land & Investment Co., Marianna, Fla.

**FARM BARGAIN.**—193 acres, 40 on railroad cleared, 50 in good timber; seven-room house, four-room cottage, barn, horse and wagon, two top buggies; 200 bushels corn, 300 bundles fodder; splendid cotton land; some of this land will bring \$50 an acre; right at small town; real value, \$7000; for quick cash buyer \$5800 takes it. Subdivided in small farms will bring double this money. King & King, 404 West Bldg., Jacksonville, Fla.

**FLORIDA GROVE.**—20½ acres red land; quarter mile from railroad station; set in budded trees, best varieties oranges, grapefruit, Avocado pears, mangos; bearing next year. Price \$10,000. Thos. J. Peters, Perrine, Dade Co., Fla.

### GEORGIA

**400-ACRE FARM;** fine residence; well-established dairy; fine location, with good business; 60 head Jersey cattle, number of hogs, mules, hay, grain, machinery, tools, etc.; at ½ real value. J. L. Hurst, Eatonton, Ga.

**GEORGIA FARM LANDS.**—Great-grandfather of Colonel Roosevelt was married in mansion still standing on "Cedar Hill Plantation," a tract of 800 acres of choice improved and timber land 30 miles from Savannah, Ga. It is one of the numerous special bargains in farm and stock-raising lands which we are offering home-seekers who appreciate the great future in Georgia real estate. Write us today. Bernard & Waters, Box 92, Savannah, Ga.

### INDIANA

**FOR SALE.**—85-acre farm, three miles north of Cloverdale, Putnam county, Ind.; buildings all in fair shape; all but three acres is fine tobacco land; large tobacco barn, 16x50, built last year; gradual east slope; sugar tree and walnut soil. Price \$8500; no trade. Fay D. Pickens, Cloverdale, Ind.

**FOR SALE OR TRADE.**—275 acres, three miles north Vernon, Jennings county, Ind.; good rock road; 150 acres in cultivation; buildings in very good shape. Price \$60 per acre; consider two-thirds in trade. Fay D. Pickens, Cloverdale, Ind.

### LOUISIANA

**FORTY-ACRE TRUCK FARMS** for sale in the famous strawberry belt of Louisiana; on main line of Illinois Central Railroad. Price \$25 per acre on easy terms. Similar lands only a few miles distant are selling as high as \$75 per acre. The Lampton Realty Co., 405 Ibero Bank Building, New Orleans, Louisiana.

**LOUISIANA LANDS.**—We make a specialty of improved farm lands, and on application will mail free list giving price and description of more than a hundred tracts, from 18 acres to 2400 acres. Also write us for hardwood, cut-over and colonization propositions from 1000 to 60,000 acres. Grace Realty Co., Plaquemine, La.

**HEADQUARTERS FOR NORTH LOUISIANA LANDS.**—Large and small tracts, suitable for plantations, small farms, orchards or truck gardens. Climate, soil and health conditions here are unsurpassed. The staple crops of the North grow in this section alongside of cotton and cane. A great stock country. Write for particulars, stating your requirements. References, my customers and any bank in Shreveport. W. A. Jones, Authority on North Louisiana Lands, Shreveport, La.

**248 ACRES** of land for sale; 100 cleared, under net wire fence; 148 in timber; two tenant-houses, one dwelling, one barn; good water and stock range; school and church; railroad 2½ miles. For further information address R. E. Kiper, Gilbert, La.

### MISSISSIPPI

**FORTY-ACRE FARMS** in George county, Mississippi, 25 miles northwest of Mobile. This is one of the most-favored general farming sections of the entire South, and no better values can be found anywhere. Price \$25 per acre on easy terms. The Lampton Realty Co., 405 Ibero Bank Building, New Orleans, Louisiana.

**2555 ACRES** of good hill cotton land for sale now in successful operation; well supplied with negro labor. The plantation lies between two branches of the Illinois Central Railroad; nearest shipping point, four miles from the dwelling. The land corners within half mile of the railroad. A sufficiency of cabins for tenants, stables, cribs, cotton pens and all outhouses. Forty-five head of mules and horses, cows, farming implements and feedstuff. Price very low. Terms good. Address: A. C. Leigh, Grenada, Miss., bona-fide owner of the property.

### MISSOURI

**FARM, 160 acres;** 12 acres orchard; good improvements; will sell reasonable. Loy King, Rolla, Mo., R. R. No. 1.

### NORTH CAROLINA

**FARM FOR PROFIT** in Eastern North Carolina, the "Nation's Garden Spot." Leads other localities for vegetables, fruits and staple farming on small capital. Home-seekers and investors, write Carolina Trucking Development Co., 115 Southern Bldg., Wilmington, N. C.

**DAIRY OPPORTUNITY** and land for fruit; also old rice and swamp lands; fine location for dairy, five acres with outbuildings, on tidewater stream, or good for manufacturing site; also 160 acres old rice and swamp lands, rich soil, and 50 acres upland, fine for fruit, especially grapes, uncultivated; all adjoining; near railroad and near city (Wilmington, N. C.), 35,000 population. Address Joseph D. Smith, Wilmington, N. C.

### SOUTH CAROLINA

**FOR SALE.**—28 acres, edge of town of Central, S. C. (town of about 1500 people), main line Southern road, 25 miles from Greenville; joins property of Issaquena Mills; lies well; 24 acres in cultivation; about 10 acres good creek bottoms; suitable for truck, grain or cotton; eight-room dwelling, servant-house, large barn and store in forks Anderson and Pentleton roads. Third cash; balance term of years. Wm. Goldsmith, Greenville, S. C.

### TEXAS

**TEXAS COAST COUNTRY FRUIT AND FAIRM LANDS;** both large and small tracts for home or investment. For information call on or write C. H. Stancil Land Co., Houston, Texas.

**40,000 ACRES** of fine agricultural land in the great St. Stephen valley in Presidio county, Texas; \$5 per acre; small cash payment; easy terms on balance.

**4412 acres** of fine grazing land in alternate tracts, Presidio county, Texas; \$1.50 per acre. West Heights Development Co., Marfa, Tex.

**FARMERS AND INVESTORS** can buy good Texas lands in a country of sunshine and health at \$5 to \$50 per acre that will yield three crops yearly on same acre with a profitable market for all. Interstate Realty & Improvement Co., 213 Temple Bldg., Houston, Texas.

**IRRIGATED FARM.**—350 acres of rich sandy loam, level, and to be irrigated from the famous Elephant Butte Dam, now in course of construction. This land can now be bought for \$35 an acre. Write us for full description. Loomis Bros., El Paso, Texas, Mexican Timber Lands.

**FOR SALE.**—23½ acres prairie land, located on Santa Fe Railroad and on public road (shelled) only 13 miles from Beaumont and one-quarter mile from Fannett; suitable for general farming or for subdividing into smaller tracts. Title perfect. Price \$27.50 per acre. Also other lands suitable for subdivision. Texas Realty Co., Beaumont, Texas.

**JAS. GOODE REAL ESTATE CO.** ranch and irrigated lands. Office, Orient Hotel, Pecos, Tex.

**THE BLACK LANDS OF NORTH TEXAS** are justly famous as the best in the world for the production of cotton, corn, wheat and oats—not one crop, but four. Once Goodwin's Denton Creek Subdivision consists of more than 8000 acres of this land, situated on the Denton and Wise county line, 50 miles northwest of Dallas, and is offered at reasonable prices—thirty to forty dollars per acre—and upon such terms that any man with a few hundred dollars cash can easily meet. The gradual and steady enhancement in value of such land should appeal to investors, while the very easy terms upon which it is offered should appeal to the farmer without a home. Address Fount Ray, Decatur, Texas.

**15-ACRE HOME FOR YOU** in Sunny South Land of Texas. Present crop of Irish and sweet potatoes, cabbage, fruits and vegetables worth \$1500; good barn, implements, stock, household goods and fine well of water; good roads, schools, churches and stores close. All for \$7500; easy terms. Interstate Realty & Improvement Co., 213 Temple Bldg., Houston, Texas.

**TEXAS COTTON AND SUGAR PLANTATION.**—2900-acre plantation on Colorado river, near Eagle lake; railroad switch on property; about 1000 acres river-bottom land in cultivation; 18 houses, barns, cribs and cotton gin, grist mill, blacksmith shop and many other improvements; 200 head stock; about 40 horses and mules; planted this year in cotton and corn; finest pecan grove in South Texas on property. Altogether the finest and cheapest thing in State. Everything goes for \$35 per acre; easy terms. Kullenberg Realty Co., 302 Gibbs Bldg., San Antonio, Texas.

**IRRIGATED LANDS.**—Parties in the North, East and Middle West interested in improved and unimproved irrigated lands and ranch property in the great Pecos section, communicate with us. Pawcett & Davis, Pecos, Tex.

**FOR SALE.**—8000 acres about 40 miles east of Austin (the capital of Texas), mainly good agricultural land. (Average rainfall for fifty years about thirty-three inches.) A sure crop country. Price \$10 per acre. Geo. W. Walling, Jr., Austin, Texas.

**COTTON AND CORN LAND.**—12,500 acres, near two good railroads, being one mile from one and two miles from the other; splendid colonization tract; at \$10 per acre; one-fourth cash; balance 6 per cent. Address owner, Dr. C. S. Preston, 1007 Scanlan Bldg., Houston, Texas.



# Classified Opportunities

## MEN WANTED

SALES AGENTS to sell feed-water heaters, evaporators, condensers and other power-plant equipment; guaranteed territory; commission. Address Fisher, 90 West St., New York City.

WANTED—Traveling or local men; all sections of the country; profitable side line; commission or salary; good men average \$100 weekly. For particulars address The Sun Chemical Company, Richmond, Va.

SALESMEN wanted to sell best-known vegetable boiler compound on the market; used all over the United States. Wrinkle Paint Mfg. Co., Columbus, Ohio.

AGENTS WANTED to sell lubricating oils, belts, hose, paint, varnish, to contractors, auto owners, mills, factories, etc. Exclusive territory to right party. Oil experience unnecessary. Manufacturers' Oil & Grease Co., Cleveland, Ohio.

WANTED—Good business man or machinist to invest \$3000 to \$5000, with services, in Southern company making patented corn mill. Can't fill all the orders and must increase capacity. Good floor opportunity. Address No. 884, care Manufacturers Record.

WANTED—At once, good draughtsman, surveyor and civil engineer who wants to connect permanently with large industrial corporation; must become a stockholder in company and serve as confidential man. Give full particulars and references in first letter. Address Manager, Office 711-68 Hudson St., Hoboken, N. J.

WANTED—A partner with capital to take full charge of managing the office in the manufacturing of steam specialties, patented, and well marketed; also engineering work. Address No. 881, care Manufacturers Record.

SALESMAN.—An excellent opportunity for a bright, snappy salesman to represent on a strictly satisfactory commission basis, a first-class leather belting manufacturer, with specialties. No use for any but good men, and references must accompany application. The Ulmer Leather Co., Norwich, Conn.

AGENTS FOR FLORIDA CITRUS AND VEGETABLE LANDS.—Responsible men wanted to sell land on commission basis. Our property is in the Tampa district near the Gulf of Mexico, the recognized location for growing to best advantage citrus fruits. Every variety of productive soil. Suitable for truck growing and general farming. Property divided in ten-acre tracts. Write D. F. Conoley, President Tampa & Tarpon Springs Land Co., Tampa, Fla.

## AGENCIES WANTED

AGENCY WANTED.—A well-established firm of St. Louis wants one or two more good agencies from some good reliable manufacturer of railroad specialties; can give best of references. Address No. 888, care Manufacturers Record.

## SITUATIONS WANTED

SUPERINTENDENT or general foreman of building construction is open to an engagement on any class of building. Address No. 888, care Manufacturers Record.

SITUATION as office, credit or sales manager in Southern or Southwestern city; up-to-date methods; best references for qualifications and ability. Address W. C. Darrow, Gen. Del., Richmond, Va.

EXECUTIVE position wanted by American knowing four languages, who has traveled in foreign countries for a number of years and has excellent knowledge of business conditions abroad. At present with large corporation in this country. Will go anywhere. Address No. 889, care Manufacturers Record.

A JOB WANTED by a man with ten years' successful experience in handling large contracts for machinery and mechanical goods; competent to handle sales department or branch house. Address No. 885, care Manufacturers Record.

AN EXPERIENCED commercial secretary, now employed, desires change; best of reasons; ten years' railroad experience, including four years traveling; familiar with every department; legal, newspaper and publicity experience; very best references as to general standing and result-producing ability. Address No. 876, care Manufacturers Record.

## EDUCATIONAL

RENSSELAER POLYTECHNIC INSTITUTE, TROY, N. Y.—Courses in Civil, Mechanical and Electrical Engineering, and General Science, leading to the degrees of Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), and Bachelor of Science (B.S.). Special courses in engineering and science. Splendidly equipped new engineering laboratories. Send for catalogue to Registrar.

WASHINGTON COLLEGE FOR YOUNG LADIES.—Located at the nation's capital, with all the attendant advantages, both educational and social; in the city, but with a campus of 10 acres; charming home life; an ideal school in every particular. Write for catalogue. F. Menefee, President, Third and T Streets N. E., Washington, D. C.

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 24 lines. Allow seven words per line. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year, as follows: 100 lines, 18c. per line; 300 lines 16c. per line; 500 lines or more, 15c. per line.

## BANKS

COMMERCIAL STATE BANK, Birmingham, Ala. State depository. Prompt attention to Alabama collections.

THE PALMETTO NATIONAL BANK, Columbia, S. C. capital \$250,000, solicits accounts of banks, firms, corporations and individuals, either commercial or savings accounts.

## CAPITAL WANTED

TO EXTEND A RAILROAD now operating 17 miles; good bonus offered for extensions; best agricultural country; 5000 bales cotton this season; timber and coal in abundance. Write for particulars. Address No. 877, care Manufacturers Record.

## BUSINESS OPPORTUNITIES

WANTED—Some firm to manufacture my new liquid dispensing machine on royalty, or will sell outright; patent granted Feb. 1911; a money-maker. Rollin H. Baker, Dayton, O.

BUSINESS WANTED.—Am looking for a good business for my son. Any business offered must stand investigation. Address M. Record, Box 976, Cherry Valley, Illinois.

FOR SALE.—Newspaper and job plant; only one in county; electric power; linotype and full equipment; present owner in bad health. Apply at once. J. L. Hurst, Eatonton, Ga.

WANTED—Man with a little money and plenty of push and get-up to join me in the best land and town-lot proposition to be had anywhere, take charge of same, develop and put it on the market; located in the great health-giving section of North Carolina, on the A. C. L. R. R., with station on the property, near Southern Pines; big future for someone to make plenty of money; very fine location for hotel and store. So if you want to combine health with wealth, write me for full information. A. L. Bain, Greensboro, N. C.

WE CONTROL ABOUT 35,000 ACRES cut-over pine lands that can be bought cheap. We have an A-1 plan for development. If you have capital and interest, write for particulars. Smith & Wehnes, Panama City, Fla.

IF YOU have tracts of good standing timber for sale and can guarantee to be as represented, we can find a buyer. At present we are having many calls for good tracts, and if you have one, take it up with us. Branchville Timber Co., Branchville, Va.

FACTORIES LOCATED, factory buildings in the principal cities to rent, factories, sawmills, flour mills, warehouses, real and personal property sold or exchanged. Timber, grazing and farm lands sold or exchanged. Properties cared for, rents collected. Office space, desk rooms and Chicago addresses arranged for. High-class manufacturing stocks and bonds for sale and exchange. Offer what you wish to sell, inquire for what you wish to buy. Negotiations confidential. Business promptly executed. Correspondence invited. Kreis & Company, 167 W. Washington street, Chicago, Ill.

## MAPS AND BLUE PRINTS

MAPS OF TEXAS COUNTIES.—We make blueprint maps of nearly all Texas counties and several Louisiana parishes. Write for prices on those desired. Singleton Bryan & Co., Beaumont, Texas.

## TYPEWRITERS

IF YOU are interested in purchasing a high-grade typewriter and do not care to invest \$100 asked by the manufacturers, we would like you to investigate our remanufactured machines. Three days' trial allowed. Enterprise Exchange, Inc., 609 E. Baltimore street, Baltimore, Md.

## MAILING LISTS

WE CAN FURNISH ANY MAILING LIST you desire. State classification. Commercial Sales & Mfg. Co., Dept. M, Oberlin, Ohio.

## LOCATIONS SECURED

I CAN FIND YOU A LOCATION for your sawmill or slack-barrel stove factory. Write for particulars of my plan and tell me about what you want. Jo A. Parker, Parma, Mo.

## LOCATION WANTED

MASSACHUSETTS CORPORATION, manufacturing well-established and popular line of medium-priced automobiles, light and heavy commercial cars, are desirous of locating at some central point in the South where there is plenty of skilled labor, best of shipping facilities and some additional working capital can be obtained. Have an exceptionally attractive opening for a live, energetic man with capital. Edward Wilbur, 125 Summer St., Boston, Mass.

## FACTORY SITES

FREE SITES and other liberal assistance; cheap fuel; natural gas, oil, coal and abundant water; six railroads. Address Chamber of Commerce, Wichita Falls, Texas.

## INDUSTRIES WANTED

### MISCELLANEOUS

LAREDO, TEXAS, wants a tourist hotel, cement factory, up-to-date educational institution, down-the-river railroad. Laredo has cheap fuel, coal and natural gas, equable climate, abundant water, cheap labor. Address Secretary Board of Trade.

SUFFOLK.—The best manufacturing and distributing point in Virginia; six railroads and water transportation; plenty of labor; cheap fuel; electric power; seventy manufacturing plants in successful operation; opportunity for furniture and woodworking plants and any wholesale jobbing or manufacturing business; center of tidewater; richest farming section to be found; healthy; excellent schools and churches; filtered water, gas and sewer. Write Board of Trade, Suffolk, Va.

CLEVELAND, TENN., WANTS YOU.—The best town in the Southeast, with a hydro-electric development of 32,000 initial horsepower for manufacturing purposes, final development 82,000 horsepower. Free manufacturing sites; exemption from city and county taxes; ample railroad facilities; spring water pumped to all parts of the city; cheap raw materials; 185 miles of pike roads in county; fine farming and trucking section; best of public utilities; cheap white labor; cheap power; ideal location for cotton mill, furniture factory and brick-manufacturing plant; good climate; most rapidly developing city in the Southeast. Write Commercial Club, Cleveland, Tennessee.

WANTED.—Asheville, N. C., 31,000 population, including suburbs; 38 miles paved streets; best water on earth; men with capital to invest in money-making enterprises; good opening for manufacturing enterprises. Write Board of Trade.

VICTORIA, TEXAS, head of navigation of Guadalupe River; center of cotton, corn, truck and citrus fruit-growing district of South Texas; country rapidly developing; opportunities for many industries. If interested in the coastal section of Texas, write for booklet "D" to the Secretary of the Progressive League.

"BUSIEST AND BEST BUILT CITY IN TEXAS." Wichita Falls possesses unsurpassed natural resources and advantages. Offers exceptional opportunities for investors; free sites for manufacturing establishments; cheap fuel; natural gas, oil, coal, electricity and abundant water from the largest body of water in Texas; six railroads; raw material at hand; latest approved public utilities; creosoted wood block pavement throughout business section; over fifty miles concrete sidewalks. Most rapidly developing city in Southwest. Handsome booklet and detailed information upon request. Address: Chamber of Commerce, Wichita, Falls, Texas.

## INDUSTRIAL PLANTS FOR SALE

### ROTARY VENEER PLANT

WANTED.—A buyer for rotary veneer plant; 1½ acres land, office, factory and storage buildings, complete, with side track; good timber; good railroad facilities; can be had at a bargain. Address Gilkey Veneer Co., Marion, N. C.

### FLOUR AND GRIST MILL

A BARGAIN FOR QUICK PURCHASER. A flour and grist mill, capacity 20 barrels per day; water and steam power; three-story mill; mill works new; twenty acres of land improved by a seven-room house; water at door; part of land in good state of cultivation; mill property at junction of five roads; two miles from railroad station; quality of flour very good and in good demand; neighborhood first class. Address George L. Stockdale, Trustee for C. H. Van Cleef and wife, Westminster, Md.

## FACTORY BUILDING

SMALL FACTORY BUILDING FOR SALE OR RENT, located in Knoxville, Pa., on two railroads and having natural gas and other advantages; building is two stories, 50x130 feet, with additions; railroad switch right at door of factory. For full information address F. D. Freeborn, Knoxville, Pa.

## MINERAL AND TIMBER LANDS WATER POWERS AND MISCELLANEOUS PROPERTIES

WRITE for list New Orleans residence lots and factory sites; Louisiana mineral, timber, cut-over and farm lands. Orient Co., Ltd., 513 Audubon Bldg., New Orleans, Louisiana.

A REAL BARGAIN.—Modern suburban home capital city of Florida; three lots, each 85 ft. front by 150 ft.; new 10-room house with gas, electricity, water and sewerage; wire screened both floors; ideal neighborhood; State officers on either side; perfect title; price \$5000. M. C. McIntosh, Attorney-at-law, Tallahassee, Fla.

FOR SALE—Boundary of 256,000 acres in State of Durango, Mexico; good ranch, mineral and timber land; contains 500,000,000 feet yellow pine; railway building within 25 miles of lands; 25-mile tramway to new railway can be built at small cost; 100 miles to Pacific port of entry by rail, for ship-loading for use of Panama Canal route and for all American and European shipping markets. We control and can deliver promptly this valuable boundary for \$2.50 per acre; one-fourth down; one, two and three years for balance. Principals only need reply. Address for particulars, J. C. Lindley, Greensboro, N. C.

FACTORY SITES, Business Property, Residences and Farms. If interested in the metropolis of the Southwest or its territory, write for free land list and booklet on Houston, Texas (where 17 railroads meet the sea), or make your wants known. Bank references if desired. Central Land Co., 303 Theater Bldg., Houston, Texas.

## COAL AND TIMBER LANDS

FOR SALE—600 acres of coal and timber land, situated in Owsley county, Kentucky, 6 miles south of Booneville, on Indian Creek waters of the South Fork Kentucky River, and 3 miles from said river. This land contains over 8000 merchantable trees and is underlaid with a good workable seam of coal. Has a natural-gas spring that could be confined to run machinery. 60 acres of this land is a fertile valley under cultivation. Has a 6-room log dwelling, good barn, good chicken-house, and two other large storage buildings. A splendid orchard containing over 100 bearing apple trees, and a young orchard containing 100 trees of different varieties. This land is situated within 12 miles of two railroads and within 17 miles of slack water. The timber alone when marketed will net the amount I ask for the place. After the timber is removed the land may all be cultivated, and contains the very richest cove land. My price is \$15,000 net. Thos. L. Gabbard, McIntosh, Fla.

## TIMBER LAND FOR SALE

120,000 ACRES MAHOGANY TIMBER IN OLD MEXICO. Location, price and terms make it a veritable gift for quick action. Power & Brooks, Box 82, Montgomery, Ala.

2300 ACRES Florida cypress timber land, containing excellent mill site on navigable water and railroad. C. N. Joyce, 363 Calvert Building, Baltimore, Md.

MILLIONS IN IT.—86,000 acres pine timber land in Mexico, near U. S. border; great milling or investment proposition; only \$2 per acre; easy terms; nothing else like it in America. M. F. Simmons, Kansas City, Mo., 209 Scarritt Arcade.

FOR SALE—Two tracts of hardwood timber, consisting of poplar, all kinds of oak, chestnut, hemlock, cucumber, ash, lynn, etc., mostly virgin forest; one tract on Norfolk & Western and other on Carolina, Clinchfield & Ohio Railroad, in Southwest Virginia; about 10,000,000 feet in both tracts. D. C. Lampkin & W. W. Bird, Carterton, Virginia.

FOR SALE—Timber, original long-leaf yellow pine; about 1000 acres; 10,000 feet to the acre; two miles from Baden, Ga.; South Georgia Railroad; not turpentine; large, long, fine heart timber and easily accessible; high, dry and healthy; plenty good water; above of 8000-acre estate; part of balance being boxed; owners will sell later; good location for mill. O. P. Willingham, Jr., Macon, Ga.

FOR SALE—Oak and hickory timber land in Virginia; 511 acres well set in white and mixed oak and hickory; estimated 500,000 feet saw timber, 20,000 white-oak ties, 250 cords hickory-spoke timber; would also cut a big lot oak poles; good logging and excellent farming land if cleared; eight miles to railroad; good road; must sell; will take \$7000 if sold at once. For particulars write H. P. Baker, Columbia, Va.

## TIMBER FOR SALE

TIMBER.—I have for sale 270 acres of choice forest oak and pine timber, estimated to saw 3,000,000 feet of lumber, two miles from nearest railroad station. Apply to Alexander Barber, Fort Mill, S. C.



# Classified Opportunities

## CUT-OVER TIMBER LANDS

**CUT-OVER TIMBER TRACTS.**  
50,000 acres cut-over pine lands, Miss. \$6.50  
20,000 acres cut-over pine lands, La. 6.00  
20,000 acres cut-over pine lands, Tex. 5.00  
15,000 acres cut-over hardwoods, La. 4.50  
Marsh Lands for Reclamation.  
60,000 acres in a body, Gulf Coast of La. 3.00  
Timber Lands.  
20,000 acres L. L. Y. pine, Fla., cut 3500 ft. 7.00  
15,000 acres L. L. Y. pine, Ala., cut 3000 ft. 21.00  
30,000 acres hardwood, cut 10,000 ft. (60%  
red gum) 10.00  
Finest red gum proposition South.  
Wm. R. Taylor, 608 Perrin Bldg., New Orleans, La.

10,730 ACRES Louisiana hardwood timber lands, 104,600,000 ft., on Sabine River, \$15 acre.  
20,000 acres rich dark bottom cut-over hardwood, S. W. Arkansas, lands on Ry. \$4 acre.  
36,000 acres Louisiana cut-over lands, \$5 acre.  
Robert Sessions, Winthrop, Ark.

## FARM AND TIMBER LANDS

**FARM AND TIMBER LANDS.**—We have attractive offerings in farm, yellow pine and hardwood timber lands. We also handle coal and ore properties. Correspondence from interested parties invited. Provident Trust & Security Co., Land Dept., Walton Bldg., Atlanta, Ga.

**AGRICULTURAL TIMBER LANDS FOR SALE.**—We have four tracts of hardwood timber, 1700 to 3500 acres, on which the timber will pay more than double the cost of the land, and all are in the very best farming districts of Texas, on or within three miles of railroad towns, and can be subdivided after the timber is cut off and sold for farms. Price \$12 per acre; easy terms. Write for full particulars. T. H. Barrow & Sons, Austin, Texas.

**ARE YOU INTERESTED IN LAND?** If so, would like to send you descriptive lists of the best farm and timber lands on earth, in Arkansas, Mississippi and Louisiana; land rents from \$5 to \$12 per acre; prices from \$10 per acre up. Hurst Trust Co., Nos. 3 and 4 Porter Bldg., Memphis, Tenn.

**FOR SALE.**—Large and small plantations in the rich Red River Valley, cheap and on easy terms; also large tract of hardwood. Apply to E. J. Iles, Alexandria, Louisiana.

**I HAVE BARGAINS IN TIMBER TRACTS.** large colonization propositions, cut-over lands and reclamation tracts in any size wanted up to 150,000 acres from \$2.50 per acre up.  
Wm. R. Taylor, Land and Timber Investments, 508 Perrin Building, New Orleans, La. Established 1898. Sales over \$6,000,000.

**FOR SALE.**—5000 acres, East Texas, frontage three miles on river; 12,000,000 feet hardwood timber on tract, 50 per cent. of same white oak; 2000 acres of tract rich bottom land; 75 per cent. of entire tract tillable when cleared. Price \$7 per acre. Railroad runs through land. This is a fine investment, as timber will pay for land twice over. 13,750 acres in South Texas, black sandy land, with frontage of several miles on river. This is one of the finest tracts of land in South Texas, well improved, and plenty of water over entire tract of land. Price \$15 per acre, and a great investment for capital. Title to both tracts perfect. Address Kendall & Wilson, Palestine, Texas.

**TIMBER LAND FOR SALE.**—1302 acres in North Carolina that will cut 7000 feet per acre, with a railroad surveyed through one side; 1800 acres in Tennessee along same line of railroad that will cut 8000 feet per acre; a rare bargain to be had in these lands. Also have an onyx quarry at a bargain; the stone cannot be excelled for beauty of figure and takes a very high polish; nothing to compare with it as an interior finish or decoration. For particulars address W. A. Owens, Lafayette, Tenn.

**2300-ACRE RANCH** in Central Missouri, Morgan county; all under fence; lots of water in wells and springs; a fine grass proposition and the home of cattle and sheep, and now pays a good income. Price, \$12.50 per acre. McConnel, Elsmore, Kansas.

## FARMING LANDS

**WE OWN** and offer for sale on easy terms more than 100,000 acres of farming lands in Louisiana and Mississippi. Anyone interested in Southern investments should write us direct and save the middleman's profit. The Lampton Realty Co., 405 Hibernia Bank Building, New Orleans, Louisiana.

## FARM AND RANCH LANDS

90,000 acres Durango,	price \$1.75 per acre
80,250 acres Coahuila,	price 2.25 per acre
90,253 acres Chihuahua,	price 3.00 per acre
100,000 acres Sonora,	price 3.00 per acre
375,380 acres Durango,	price 3.00 per acre
162,783 acres Chihuahua,	price 2.00 per acre
135,147 acres Durango,	price 3.00 per acre
230,000 acres Coahuila,	price 1.50 per acre
1,500,000 acres Chihuahua,	price 2.50 per acre
405,000 acres Chihuahua,	price 2.00 per acre
20,690 acres Tamaulipas,	price 3.50 per acre
70,000 acres Chihuahua,	price 1.50 per acre
28,000 acres Chihuahua,	price 3.50 per acre
103,355 acres Tamaulipas,	price 2.25 per acre
179,648 acres Tamaulipas,	price 2.25 per acre
80,250 acres Coahuila,	price 2.75 per acre
1,115,640 acres Tamaulipas,	price 2.50 per acre
1,394,365 acres Sonora,	price .75 per acre
181,000 acres Sonora,	price .75 per acre
40,000 acres Durango,	price 4.50 per acre
200,000 acres Durango,	price 2.00 per acre
100,000 acres Sinaloa,	price 5.50 per acre

Cass & Fry, 30 City National Bank Building, El Paso, Texas.

## COLONIZATION LANDS

**COLONIZATION LAND IN SOUTH GEORGIA.**—We have on the Atlantic Coast Line Railroad, between Tifton and Waycross, Ga., several nice tracts for colonization. We can sell you five, ten, to fifteen thousand-acre tracts, none of it farther than four and a half miles from railroad station. This is high-class farm land, and will bear close investigation. Write C. L. Parker, Tifton, or McLendon Brothers, Atlanta, Ga.

**TRACT FOR COLONIZATION.**—12,000 acres in Lavaca and Jackson counties, Texas; 56 per cent. tillable; black waxy and black sandy land. On both sides of Lavaca River. Numerous settlements and good wells of water on tract; all subdivided and ready for colonizing. Will give good terms on this tract. Emil Locke, No. 712-13 Gibbs Bldg., San Antonio, Tex.

**AM offering several small colonization tracts of exceptional merit and value.** "Pine Crest" and "Guilford Farms," total about 1000 acres; all surveyed into five-acre lots; mapped; illustrated booklets issued; near good town with hard-surfaced road connecting; beautiful lakes; settled country; price \$13.50 an acre; could include 1000 acres adjacent or nearby, not subdivided, at \$2. Easy terms. Nothing better in Florida. Frank H. Davis, Apopka, Orange Co., Florida.

## PECAN ORCHARDS

**FIVE-ACRE PECAN ORCHARDS IN ALABAMA.**—I am offering fifty tracts of this size to the first fifty buyers. Now is your opportunity to get a start in this profitable business on easy terms. Monthly payments if desired. I can furnish best of references, and, if preferred, will manage tracts for non-resident owners. Write for full particulars and terms. Oscar V. Case, Fort Payne, Ala.

## ORANGE GROVES

**FOUR ORANGE GROVES** on Clearwater Bay, in sight Gulf Mexico. Prices of each, \$6000, \$5500 and \$4500. M. J. McMullen, Largo, Hillsborough Co., Florida.

## CABBAGE PLANTS

**AN ACRE OF CABBAGES** near a town or village will net over two hundred dollars. We have twenty-five acres in cabbage plants of all improved varieties, grown in the open air, and are positively frostproof. Will make large heads. Price, 1000 to 5000, \$1.25 per thousand. Special prices over 5000. Packed in neat boxes and tied in bunches if desired. Special express rates. The Sea Island Plant & Seed Co., Meggetts, S. C.

## FARM, FRUIT AND TRUCK LANDS

### ARKANSAS

**590 ACRES;** good residence; 65 acres in cultivation; half mile railroad station; soil sand and dirt mixed; price \$12.40 per acre. 180 acres, 70 acres in cultivation; one residence and one tenant-house; 1 1/2 miles from railroad; price \$1800. J. R. Haygood, Arkadelphia, Ark.

**SOUTHEAST ARKANSAS** is the best farming section of the State. I have for sale several good places, as well as a fine plantation, near Eudora, in Chicot county. For further information address Dr. S. A. Scott, Box No. 99, Eudora, Ark.

### FLORIDA

**ORANGES,** grapefruit and tangerine groves, trucking and agricultural lands, building lots, improved and unimproved property on the fruitland peninsula, and in the garden spot of Florida. For pamphlet and other information address G. T. Graham, Crescent City, Florida.

**FLORIDA FRUIT AND TRUCK LANDS.**—We offer 10-acre tracts in that part of the State of Florida lying in Hillsborough county and Lake Butler region, in the Pinellas peninsula, on the west coast of Florida, on the Gulf of Mexico; with its elevation and rolling hills is especially suited for fruits of all kinds—grapefruit, oranges, grapes, dates, figs, bananas, peaches and other fruits, as well as vegetables, potatoes, corn, beans, peanuts and all the varieties that can be produced anywhere. The Tarpon Springs district offers the most favorable conditions for farmer, home seeker and investor. Fertile lands in small tracts, easy monthly payments; guaranteed title. Investigation invited. If you want a bargain and a home in the most desirable part of Florida, write now for particulars and reservation. Tampa & Tarpon Springs Land Co., Tampa, Florida.

**WHY PALMETTO LEADS.**—The 800,000 boxes of fruits and early vegetables attests the superiority of soil, climate and irrigation necessary to produce such crops. The ease with which such crops are handled by rail and water make it an ideal place for fruit and vegetable growing. The Manatee River, Terra Cina and Tampa bays furnish ideal salt-water fishing, boating and bathing. For further information address The Manatee River Board of Trade, Palmetto, Florida.

**FLORIDA FARM, 1300 ACRES RECLAIMED LAND,** ready for cultivation; drained direct into Biscayne Bay; county rock road; railroad station on property; crop from 300 acres planted this winter will net half as much as price asked for all. Thos. J. Peters, Perrine, Dade Co., Fla.

**FLORIDA FARMS ARE FORTUNES.**—Our soil similar to fertile sections Iowa, Missouri; easy-payment plan. Write for booklet. Milton Land & Investment Co., Marianna, Fla.

**FARM BARGAIN.**—193 acres, 40 on railroad cleared, 50 in good timber; seven-room house, four-room cottage, barn, horse and wagon, two top buggies; 200 bushels corn, 300 bundles fodder; splendid cotton land; some of this land will bring \$50 an acre; right at small town; real value, \$7000; for quick cash buyer \$5800 takes it. Subdivided in small farms will bring double this money. King & King, 404 West Bldg., Jacksonville, Fla.

**FLORIDA GROVE.**—25 1/2 acres red land; quarter mile from railroad station; set in budded trees, best varieties oranges, grapefruit, Avocado pears, mangoes; bearing next year. Price \$10,000. Thos. J. Peters, Perrine, Dade Co., Fla.

### GEORGIA

**400-ACRE FARM;** fine residence; well-established dairy; fine location, with good business; 60 head Jersey cattle, number of hogs, mules, hay, grain, machinery, tools, etc.; at 1/2 real value. J. L. Hurst, Eatonton, Ga.

**GEORGIA FARM LANDS.**—Great-grandfather of Colonel Roosevelt was married in mansion still standing on "Cedar Hill Plantation," a tract of 800 acres of choice improved and timber land 30 miles from Savannah, Ga. It is one of the numerous special bargains in farm and stock-raising lands which we are offering home-seekers who appreciate the great future in Georgia real estate. Write us today. Bernard & Waters, Box 92, Savannah, Ga.

### INDIANA

**FOR SALE.**—85-acre farm, three miles north of Cloverdale, Putnam county, Ind.; buildings all in fair shape; all but three acres is fine tobacco land; large tobacco barn, 16x50, built last year; gradual east slope; sugar tree and walnut soil. Price \$3500; no trade. Fay D. Pickens, Cloverdale, Ind.

**FOR SALE OR TRADE.**—275 acres, three miles north Vernon, Jennings county, Ind.; good rock road; 150 acres in cultivation; buildings in very good shape. Price \$80 per acre; consider two-thirds in trade. Fay D. Pickens, Cloverdale, Ind.

### LOUISIANA

**FORTY-ACRE TRUCK FARMS** for sale in the famous strawberry belt of Louisiana; on main line of Illinois Central Railroad. Price \$25 per acre on easy terms. Similar lands only a few miles distant are selling as high as \$75 per acre. The Lampton Realty Co., 405 Hibernia Bank Building, New Orleans, Louisiana.

**LOUISIANA LANDS.**—We make a specialty of improved farm lands, and on application will mail free list giving price and description of more than a hundred tracts, from 18 acres to 2400 acres. Also write us for hardwood, cut-over and colonization propositions from 1000 to 60,000 acres. Grace Realty Co., Plaquemine, La.

**HEADQUARTERS FOR NORTH LOUISIANA LANDS.**—Large and small tracts, suitable for plantations, small farms, orchards or truck gardens. Climate, soil and health conditions here are unsurpassed. The staple crops of the North grow in this section alongside of cotton and cane. A great stock country. Write for particulars, stating your requirements. References, my customers and any bank in Shreveport. W. A. Jones, Authority on North Louisiana Lands, Shreveport, La.

**248 ACRES** of land for sale; 100 cleared, under net wire fence; 148 in timber; two tenant-houses, one dwelling, one barn; good water and stock range; school and church; railroad 2 1/2 miles. For further information address R. E. Kiper, Gilbert, La.

### MISSISSIPPI

**FORTY-ACRE FARMS** in George county, Mississippi, 35 miles northwest of Mobile. This is one of the most-favored general farming sections of the entire South, and no better values can be found anywhere. Price \$25 per acre on easy terms. The Lampton Realty Co., 405 Hibernia Bank Building, New Orleans, Louisiana.

**3555 ACRES** of good hill cotton land for sale; now in successful operation; well supplied with negro labor. The plantation lies between two branches of the Illinois Central Railroad; nearest shipping point, four miles from the dwelling. The land corners within half mile of the railroad. A sufficiency of cabins for tenants, stables, cribs, cotton pens and all outhouses. Forty-five head of mules and horses, cows, farming implements and feedstuff. Price very low. Terms good. Address A. C. Leigh, Grenada, Miss., bona-fide owner of the property.

### MISSOURI

**FARM, 160 acres;** 12 acres orchard; good improvements; will sell reasonable. Loy King, Rolla, Mo., R. R. No. 1.

### NORTH CAROLINA

**FARM FOR PROFIT** in Eastern North Carolina, the "Nation's Garden Spot." Leads other localities for vegetables, fruits and staple farming on small capital. Home-seekers and investors, write Carolina Trucking Development Co., 815 Southern Bldg., Wilmington, N. C.

**DAIRY OPPORTUNITY** and land for fruit; also old rice and swamp lands; fine location for dairy, five acres with outbuildings, on tidewater stream, or good for manufacturing site; also 100 acres old rice and swamp lands, rich soil, and 50 acres upland, fine for fruit, especially grapes, uncultivated; all adjoining; near railroad and near city (Wilmington, N. C.), 26,000 population. Address Joseph D. Smith, Wilmington, N. C.

### SOUTH CAROLINA

**FOR SALE.**—28 acres, edge of town of Central, S. C. (town of about 1500 people), main line Southern road, 28 miles from Greenville; joins property of Issaquena Mills; lies well; 24 acres in cultivation; about 10 acres good creek bottoms; suitable for truck, grain or cotton; eight-room dwelling, servant-house, large barn and store in forks Anderson and Pentleton roads. Third cash; balance term of years. Wm. Goldsmith, Greenville, S. C.

### TEXAS

**TEXAS COAST COUNTRY FRUIT AND FAIRM LANDS;** both large and small tracts for home or investment. For information call on or write C. H. Stancil Land Co., Houston, Texas.

**40,000 ACRES** of fine agricultural land in the great St. Stephen valley in Presidio county, Texas; \$5 per acre; small cash payment; easy terms on balance.

**4412 acres** of fine grazing land in alternate tracts, Presidio county, Texas; \$1.50 per acre. West Heights Development Co., Marfa, Tex.

**FARMERS AND INVESTORS** can buy good Texas lands in a country of sunshine and health at \$5 to \$50 per acre that will yield three crops yearly on same acre with a profitable market for all. Interstate Realty & Improvement Co., 213 Temple Bldg., Houston, Texas.

**IRRIGATED FARM.**—350 acres of rich sandy loam, level, and to be irrigated from the famous Elephant Butte Dam, now in course of construction. This land can now be bought for \$35 an acre. Write us for full description. Leonis Bros., El Paso, Texas, Mexican Timber Lands.

**FOR SALE.**—25 1/2 acres prairie land, located on Santa Fe Railroad and on public road (shelled) only 13 miles from Beaumont and one-quarter mile from Fannett; suitable for general farming or for subdividing into smaller tracts. Title perfect. Price \$27.50 per acre. Also other lands suitable for subdivision. Texas Realty Co., Beaumont, Texas.

**JAS. GOODE REAL ESTATE CO.** ranch and irrigated lands. Office, Orient Hotel, Pecos, Tex.

**THE BLACK LANDS OF NORTH TEXAS** are justly famous as the best in the world for the production of cotton, corn, wheat and oats—not one crop, but four. Once Goodwin's Denton Creek Subdivision consists of more than 8000 acres of this land, situated on the Denton and Wise county line, 50 miles northwest of Dallas, and is offered at reasonable prices—thirty to forty dollars per acre—and upon such terms that any man with a few hundred dollars cash can easily meet. The gradual and steady enhancement in value of such land should appeal to investors, while the very easy terms upon which it is offered should appeal to the farmer without a home. Address Fount Ray, Deatur, Texas.

**15-ACRE HOME FOR YOU** in Sunny South Land of Texas. Present crop of Irish and sweet potatoes, cabbage, fruits and vegetables worth \$1500; good barn, implements, stock, household goods and fine well of water; good roads, schools, churches and stores close. All for \$3700; easy terms. Interstate Realty & Improvement Co., 213 Temple Bldg., Houston, Texas.

**TEXAS COTTON AND SUGAR PLANTATION.**—300-acre plantation on Colorado river, near Eagle lake; railroad switch on property; about 1000 acres river-bottom land in cultivation; 18 houses, barns, cribs and cotton gin, grist mill, blacksmith shop and many other improvements; 200 head stock; about 40 horses and mules; planted this year in cotton and corn; finest pecan grove in South Texas on property. Altogether is finest and cheapest thing in State. Everything goes for \$35 per acre; easy terms. Kullenberg Realty Co., 302 Gibbs Bldg., San Antonio, Texas.

**IRRIGATED LANDS.**—Parties in the North, East and Middle West interested in improved and unimproved irrigated lands and ranch property in the great Pecos section, communicate with us. Pawkett & Davis, Pecos, Tex.

**FOR SALE.**—8000 acres about 40 miles east of Austin (the capital of Texas), mainly good agricultural land. (Average rainfall for fifty years about thirty-three inches.) A sure-crop country. Price \$10 per acre. Geo. W. Walling, Jr., Austin, Texas.

**COTTON AND CORN LAND.**—12,500 acres, near two good railroads, being one mile from one and two miles from the other; splendid colonization tract; at \$10 per acre; one-fourth cash; balance 6 per cent. Address owner, Dr. C. S. Preston, 1007 Scanlan Bldg., Houston, Texas.



# Classified Opportunities

[CONTINUED FROM PAGES 86 AND 87.]

**TEXAS** is the land of golden opportunities for every American wage-worker; best of them truthfully described in our free booklet. Write Dept. A, Walter A. Magill, Sec., Bay City, Tex.

550 ACRES fine potato, cotton, corn and alfalfa land, \$22.50; worth \$50; must sell. N. B. Knight & Co., Houston, Texas.

**THE FRIO VALLEY WINTER GARDENS.** La Salle county, Southwest Texas, a colony of 100,000 acres level rich black sandy loam in famous artemesian belt; grow oranges, figs, Bermuda onions. We are opening Fowlerton, a new town on new railroad in heart of the colony. Guaranteed improvements on town-site. A 16-acre farm and free residence lot on terms of \$15 cash; balance \$10 monthly. Write for booklet A, prices, plats, etc. Fowler Brothers Land Co., Frost Building, San Antonio, Texas.

**GREATER HOUSTON** (Population over 100,000).—Just twelve miles out on Main street (Houston's \$200,000,000 thoroughfare) is located North Houston Gardens; 10-acre tracts only \$800; terms, \$25 cash, balance \$15 per month, no interest; five-acre tracts, \$400; terms \$15 cash, balance \$7.50 per month, no interest; 142-acre improved farm 50 miles from Houston, price \$25 per acre. H. S. Taylor, Scanlan Bldg., Houston, Texas, Member Houston Real Estate Exchange and the Texas Realty Association.

**\$5 PER ACRE ONLY** for section of good agricultural land in the Sunny Coast Country of Texas. Three crops yearly can be raised on the same acre, realizing you \$25 to \$300 per acre for each crop; ready market; schools, churches and railroads close by. Write quick before sold. Interstate Realty & Improvement Co., 213 Temple Bldg., Houston, Texas.

**WACO, TEXAS.**—Central and South Texas farms and ranches a specialty. South Texas fig and orange lands offer best dividends on investments from \$60 to \$150 per acre. Write us for particulars. Elder & McDonald, Room 614 Amicable Bldg., Waco, Tex.

**HAVE ABOUT 50 ACRES** in the artemesian belt, Dimmit county, in cultivation under irrigation; good house, pump, engine; \$65 per acre. Ross W. Davis, 404-405 Moore Building, San Antonio, Texas.

## VIRGINIA AND MARYLAND

**FOR SALE.**—Best farm proposition for price, quality and location in Loudoun county, Virginia; by railway station; 383 acres; fully subdivided. DeL. S. Crittenden, Ashburn, Va.

## MACHINERY AND SUPPLIES

**WANTED.**—Every consumer in the Southwest to know that the Texas Rolling Mill Company of Fort Worth, Texas, manufactures track spikes, track bolts, machine bolts and nuts; also standard sizes of bar iron. One hundred tons always in stock. Prompt shipments our specialty. Satisfaction guaranteed.

## FINANCIAL

**8 PER CENT. 5-YEAR OKLAHOMA FARM MORTGAGES.**—Yes, rate is high, but sure and easily paid; conditions warrant it, and you get benefit; lands cheap, rich; values doubling; 25 years' experience in Southwest; 10 years bank cashier here; know people, lands, laws, resources, local conditions; never lost a mortgage nor had a title contested; abundant references; circular; investigate. J. G. James, Roff, Oklahoma.

**SAVANNAH, GA.**—Real estate loans paying 6 per cent. to 7 per cent. to the investor; absolutely safe. Beautiful sites for winter homes at Vernon View, the salt-water place near Savannah on the Grand Prize Course; ideal winter climate. G. A. Mercer, Law and Real Estate, Savannah, Ga. References: Any bank or trust company in Savannah.

## PATENT ATTORNEYS

**EUGENE C. BROWN, ENGINEER** and Patent Lawyer, Suite 40 Victor Bldg., Washington, D. C., Member Bar U. S. Supreme Court. Patents and Trademarks; Patent Suits for Infringement. Mr. Brown is especially qualified to prosecute cases in Patent Office and patent litigation from both Engineering and Legal standpoints, having been Examiner in U. S. Patent Office for nine years. Send sketch for advice.

**PATENT YOUR IDEAS.**—\$100,000 offered for one invention, \$500 for another; book, "How to Obtain a Patent" and "What to Invent," sent free; send rough sketch for free report as to patentability; patent obtained or fee returned. We advertise your patent for sale at our expense. Chandler & Chandler, patent attorneys, 978 F street, Washington, D. C.

**PATENTS OF QUALITY.**—The valuable and salable kind. Send for free advisory information. Reference to clients throughout the U. S. Geo. R. Hamlin, Patent Lawyer, Inventive Age Bldg., Washington, D. C.

**IDEAS WANTED.**—Manufacturers are writing for patents procured through me. Send for free 72-page guide and "Stepping Stones" (containing over 250 inventions wanted). Personal services. Clients' patents sold free. Trade-marks registered. R. B. Owen, Dept. 12, Washington, D. C.

**PATENT WHAT YOU INVENT.**—Your ideas may bring you a fortune. Our free books tell what to invent and how to obtain a patent. Send sketch of invention for free opinion as to patentability. Patents obtained or fee returned. Patents advertised for sale free. H. Ellis Chandler & Co., successors to Woodward & Chandler, Suite 75 Borneo Bldg., Washington, D. C.

**PATENTS Secured or Fee Returned.** Send sketch for free report as to patentability. Guide book and what to invent, with valuable list of inventions wanted, sent free; \$1,000,000 offered for one invention; \$16,000 for others. Patents secured by us advertised free in World's Progress; sample free. Victor J. Evans & Co., Washington, D. C.

## PATENTS FOR SALE

**WE HAVE** recently secured the following patents. Address all communications to Sales Dept., Victor J. Evans & Co., Washington, D. C.: W. Emery Hoffman, fastening device; Nathaniel Johnson and Robert L. Stalans, churn; Robert J. Johnston, matchbox; J. F. Gasthoff, decorative sheet; Y. M. Crechion, pool and billiard table stretcher; Irvin H. Martin, spigot; Wm. B. Mims, rail joint; J. E. Porter and W. W. Thomas, load carrier; G. R. Penn, brush; A. L. Paschall, tooth-cleaning device; W. V. Taber, dye cleaner; Harry E. Waters, valve-grinding machine; Karl Teurich, lock; James Dobbin, track gauge; Jacob T. Lutz, trace carrier; Max Zetschock and Fred Seitz, steam generator; H. J. Winckler, buggy wrench; Wm. Enders, swimmer's appliance; David H. Evans, device for controlling levers of motors; Levi Bosley, self-adjusting wrench; C. D. Dellinger, plow; I. W. Boeshans, camera tripod; Wm. F. Black, concrete tie; W. A. Crawford-Frost, aeroplane; P. F. Berkey, washing machine.

## The Proposal Columns of the Manufacturers Record Are Invaluable

in securing competitive bids from first-class firms for bond purchases and all kinds of construction work, such as railroad (steam and electric), electric light plants, public franchises, water-works, sewerage, municipal improvements and all public utilities. Whenever the regular issue of the Manufacturers Record is too late for quick bids, the

## DAILY BULLETIN of the Manufacturers Record

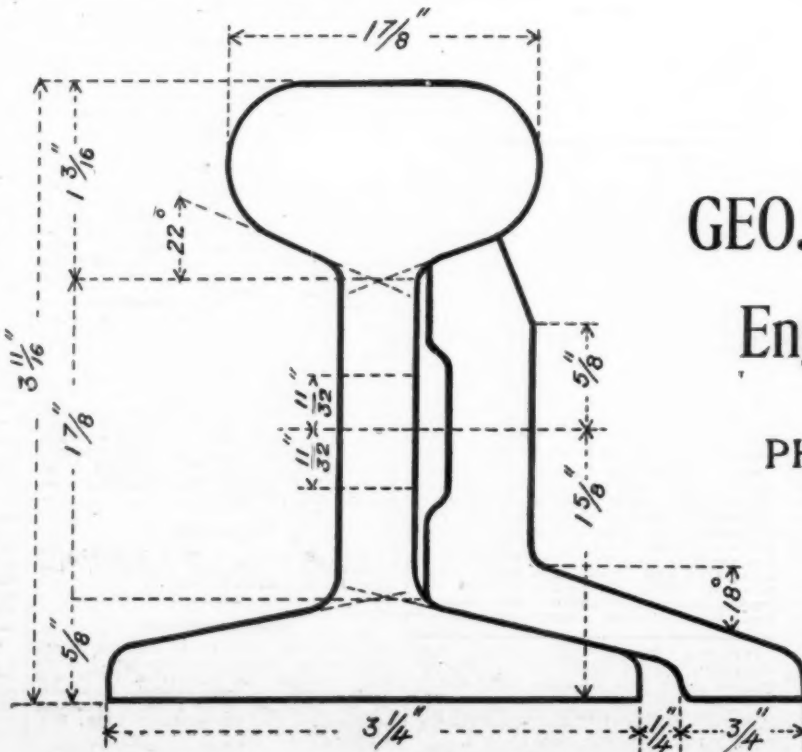
which reaches financial people, engineers, architects, contractors, etc., throughout the country—North, South, East and West—can be used to great advantage, as it is

**published every business day in the year**

1000 TONS  
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BALTIMORE, MD.

NEW RAIL  
40-lb. Section



GEO. M. NEWHALL  
Engineering Co.

PHILADELPHIA,  
PENNA.

# PROPOSALS

PUBLIC BUILDINGS.

CONSTRUCTION BONDS

MISCELLANEOUS.

## GOVERNMENT PROPOSALS

**PROPOSALS FOR STEEL SLAB REINFORCEMENT MATERIAL, Wrought-iron and steel Pipe, Lumber, and Piles.** Sealed proposals will be received at the office of the General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10.30 A. M. December 6, 1911, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 665) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La., and 1086 North Point Street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala., and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash. F. C. BOKGUS, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

**TREASURY DEPARTMENT.** Office of the Supervising Architect, Washington, D. C., November 11, 1911. Sealed proposals will be received in this office until 3 o'clock P. M. on the 27th day of December, 1911, and then opened, for the construction, complete (including plumbing, gaspiping, heating apparatus, electric conduits, wiring and interior lighting fixtures), of the Postoffice, Court-house and Custom-house at Miami, Florida. The building is of three stories, with basement and unfinished attic, and has a ground area of approximately 7200 square feet. Fireproof construction throughout, stone facing, tile and copper roof. Drawings and specifications may be obtained from the Custodian of site at Miami, Florida, or at this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect.

**MISSISSIPPI RIVER COMMISSION.** 1st and 2d Districts, U. S. Engineer Office, Memphis, Tenn., October 25, 1911. Sealed proposals for furnishing one locomotive crane will be received at this office until 12 o'clock noon November 24, 1911, and then publicly opened. Information on application. CLARKE S. SMITH, Maj., Engrs.

**U. S. ENGINEER OFFICE.** 320 17th St., N. W., Washington, D. C., October 19, 1911. Sealed proposals for dredging in Mataponi and Pamunkey Rivers, Va., will be received here until 12 M. November 13, 1911, and then publicly opened. Information on application. W. C. LANGFITT, Lt.-Col., Engrs.

## NEW BOND OFFERINGS

### \$130,000 Refunding Bonds

Wanted—Bids for refunding bonds amounting to \$130,000. Bids to be sealed and delivered to the undersigned not later than December 12, 1911. A certified check to accompany each bid. Right to reject all bids reserved.

W. P. MONROE, Clerk,  
Huntsville, Ala.

### Bonds for Sale

The Town of Enfield, N. C., invites bids for ten thousand dollars' worth of twenty-year six per cent. coupon bonds for an electric-light system. Bonds in denomination of \$500, one bond payable every year. Interest payable semi-annually. No bid considered unless accompanied by certified check or N. Y. exchange for 10 per cent. of bid. Bids opened December 6, 1911. Right reserved to reject any and all bids. Bids should be addressed to and full information can be obtained by addressing

W. T. CLEMENT,  
Mayor.

Enfield, N. C., October 26, 1911.

### City Bonds For Sale

The Board of Bond Trustees of the City of Arcadia, Florida, will receive sealed bids until 12 o'clock M. November 30, 1911, for the purchase of the following bonds of said city of Arcadia, Florida, to wit:

\$30,000 Extension and Improvement of Water-works.

\$20,000 Extension and Improvement of Sewerage.

\$10,000 Street Improvement and Pavement.

Said bonds are of the denomination of \$1000 each, bear interest at the rate of five per centum per annum, are dated June 1, A. D. 1911, and are payable thirty years after date. The interest on said bonds is payable semi-annually on the first day of December and on the first day of June of each year. Principal and interest payable at the office of the City Treasurer, Arcadia, Florida.

All bids to be accompanied by a certified check for two per cent. of the amount of the bonds bid for.

This bond issue was validated, confirmed and ratified by special act of Florida Legislature, approved by the Governor May 23, 1911.

The Bond Trustees reserve the right to reject any and all bids.

J. L. JONES,  
Secretary and Treasurer.

### \$37,000 5% Bonds

Sealed bids for the purchase of \$37,000 Street Improvement Bonds and \$27,000 Water-works Bonds, all 5 per cent. ten-forties, issued by the city of Paducah, Texas, will be received up to November 27, 1911, at 3 P. M. Proposals must state offer for each set of bonds separately, and also for the two together. Certified check for three per cent. of amount of bid to accompany each bid. Right reserved to reject any or all bids.

Address: W. H. ABERNATHY, Mayor,  
Paducah, Texas.

### Sale of Missouri State Bonds

Three and a half per cent. Capitol Building Bonds.

Dated January 1, 1912. Optional in eight years and redeemable in thirteen years. Issue, \$3,500,000.00. To be issued in denominations of \$1,000.00 in coupon form, with interest payable semi-annually on the first of January and the first of July of each year.

These bonds will be sold on Friday, December 1, 1911, at 12 o'clock noon, at the office of the State Board of Fund Commissioners in Jefferson City, Missouri. No bids will be accepted for less than the par value of the bonds, nor unless accompanied by a deposit of money or by a certified check or bank draft upon a solvent bank or trust company of the cities of Jefferson City, Kansas City, St. Louis, Chicago or New York, payable to the order of the State Treasury of Missouri, for at least five per cent. of the par value of the bonds bid for.

All bids, together with the security deposits, must be sealed and endorsed "Bid for Missouri State Capitol Bonds," and enclosed in a sealed envelope directed to the "State Board of Fund Commissioners, Jefferson City, Missouri," care of James Cowgill, State Treasurer.

These bonds will be ready for delivery to the purchaser on January 1, 1912. The State Board of Fund Commissioners reserves the right to reject any or all bids which are not considered advantageous to the State. The Board of Fund Commissioners further reserves the right to issue at least \$500,000.00 of the bonds in the denomination of \$500.00.

Further particulars can be secured by addressing James Cowgill, State Treasurer, Jefferson City, Mo.

The State of Missouri has no other bonded indebtedness, and the payment of the interest and principal of this issue of bonds is provided for by a special tax of 2 cents on the \$100 of assessed valuation. The total assessment of all classes of property in the State for the taxes of the current year is \$1,804,238,191.00.

HERBERT S. HADLEY, Governor,  
JOHN P. GORDON, Auditor,  
ELLIOTT W. MAJOR, Attorney-General,  
JAMES COWGILL, State Treasurer,  
Board of Fund Commissioners of the  
State of Missouri.

### Five Hundred and Twenty-four Thousand Dollars (\$524,000) Refunding Bonds of the City of Houston, Texas

#### NOTICE TO BOND BUYERS.

Sealed bids will be received by the City of Houston, Texas, until 12 o'clock noon Monday, December 11, 1911, for the issue of five hundred and twenty-four thousand dollars (\$524,000) five per cent. (5%) Refunding Bonds, bearing date the 16th day of October, A. D. 1911, interest payable semi-annually at the office of the Union Trust Company in the city of New York; said bonds to run thirty (30) years, with an option reserved by the city of Houston to pay same at the expiration of twenty (20) years.

Each bid for the above issue of bonds must be accompanied by a certified check on a Houston bank, payable to H. B. Rice, Mayor, for one per cent. (1%) of the face value of said issue as a guaranty of good faith; bonds to be delivered and money paid in Houston, Texas.

The city of Houston reserves the right to reject any and all bids.

H. B. RICE,  
Mayor of the City of Houston.

Attest:  
DAN C. SMITH, JR.,  
City Secretary.

### \$31,500 5% Bonds

Harlingen, Texas. Sealed bids will be received until 2 P. M. November 25, 1911, for the purchase of the following bonds, issued by the city of Harlingen, Texas, approved by the Attorney-General and registered by the Comptroller of Texas, as required by law:

\$21,500 Water and Light Bonds.

\$10,000 Road, Bridge and Street Bonds.

All bonds of denomination of \$500, dated September 27, 1911, due 40 years after date, option of redemption after 30 years, 5 per cent. semi-annual interest. Bonds payable at Hanover National Bank, New York; Union Trust Co., St. Louis, Mo.; Treasurer of Texas, at Austin, Texas, or at Harlingen, Texas, at option of holder. Abstract of bonds, certified by Comptroller of Texas, furnished successful bidder.

Certified check for 2 per cent. of amount of bid, payable to A. W. Cunningham, Mayor, must accompany bid.

No bids received for less than par and accrued interest. Right reserved to reject any and all bids.

Address: A. W. Cunningham, Harlingen, Texas.

## MISCELLANEOUS

### Water-Works

The Board of Mayor and Aldermen of the town of Obion, Tennessee, will receive bids at the office of the Mayor for the construction of a water-works until 2 P. M. November 21, 1911. For all necessary information address S. J. Harris, Recorder, Obion, Tennessee; C. H. Jenks, Eng., Union City, Tenn.

### 100 H. P. Return Tubular Boilers

Specifications, with sealed bids, will be received at the office of the City Clerk of the City of Fernandina, Florida, until 12 noon December 13, 1911, for two 100 H. P. boilers, the return-tubular type, of 125 lbs. steam pressure, 66"x16". Boilers to be of the beam suspended steel-cased type. The city reserves the right to reject any and all bids. For general information apply to G. L. Baitzell, City Clerk, Fernandina, Florida.

### Six-Story Building

Bids will be received until twelve o'clock noon November 30, 1911, for the erection and entire completion of a six-story-and-basement fireproof building at Baton Rouge, La., for Mr. J. K. Roumain, according to plans and specifications and conditions for estimating, which can be had from Favrot & Livaudais, Ltd., Architects, No. 839 Gravier St., New Orleans, La.

### Electric Lighting Plant

The Mayor and Commissioners of the town of Enfield, N. C., will receive bids at the office of the Mayor for the furnishing of materials and the construction of a municipal electric-lighting plant until 5 P. M. December 6, 1911. For all necessary information address W. T. Clement, Mayor, Enfield, N. C., or C. E. Fairbanks, Engineer, 417 American National Bank Building, Richmond, Va.

### Cast-Iron Water Pipe

Sealed bids for 33,000 linear feet of 10-inch Class "B" cast-iron water pipe will be received until 5 P. M. November 20, 1911, by the City of Pryor Creek, Oklahoma. Pipe must come under specifications of American Water-Works Association for cast-iron pipe. The city reserves the right to reject any and all bids. The Benham Engineering Co., 812-13-14 American National Bank Building, Oklahoma City, Oklahoma, are Consulting and Supervising Engineers. Joe Hillin, City Clerk, Pryor Creek, Oklahoma.

### Bids for Metallic Shelving and Cases

Sealed bids for metallic shelving and fixtures for certain offices in the Mobile County Courthouse are solicited. The same will be opened November 20, 1911, at 12 M.

Specifications can be seen in the Probate Court, and inspection of rooms is desired.

### BOARD REVENUE AND ROAD COMMISSIONERS,

Mobile, Ala.

### Plans for Supreme Court Building

The State Building Commission will receive at Tallahassee, Florida, until Thursday, December 7, 1911, at 10 o'clock A. M., architects' plans for a Supreme Court, Railroad Commission and Library Building in Tallahassee. A general description of the building desired will be furnished upon application to

A. C. CROOM,  
Secretary Building Commission,  
Tallahassee, Florida.

### Bascule Bridge

Comptroller's Office,  
City of New Orleans.

New Orleans, November 8, 1911.

Pursuant to Ordinance No. 7444, N. C. S., sealed proposals will be received at this office until the hour of 11 o'clock A. M. Thursday, December 28, 1911, for the erection of a Strauss Trunnion Bascule Bridge over the Carondelet Walk Canal on the axis of Hagan avenue, in accordance with plans and specifications on file in the office of the City Engineer. Deposit \$1000 with the City Treasurer, and his receipt or certified check enclosed with bid. Bond, 25 per cent. of the contract price.

The City Engineer will furnish bidders with a blank form of proposal; no proposal will be considered unless submitted on such form. Bidders must have paid their city license in order that their bids may be accepted.

The city reserves the right to reject any and all bids.

CHAS. R. KENNEDY,  
Comptroller.

### Bulkhead Wharf

#### NOTICE TO CONTRACTORS.

Richmond, Va., November 10, 1911.

Sealed proposals will be received at this office until 3 P. M. November 23, 1911, for the construction of a Timber and Pile Bulkhead Wharf along the north shore of James River in the City of Richmond, Va., from Gillies Creek to Nicholson street, about 700 feet long.

Separate proposals will also be received for the removal of earth, gravel, loose rock and solid rock between face of wharf and the channel. Information, plans and specifications can be obtained at this office. All bidders required to examine site before submitting bids, to determine conditions.

A certified check for \$500, made payable to the Treasurer of the City of Richmond, must accompany each bid.

The Committee on James River Improvement reserves the right to reject any and all bids offered or to award separately or as a whole.

CHAS. E. BOLLING,  
City Engineer.

### Bids For Dredging

Bids will be received by Laws & Lovejoy at the office of the engineers until November 20, 1911, at 2 P. M., for the construction of 33,000 cubic yards of dredge fill at New Smyrna, Fla. Cross sections and specifications may be seen at the office of the engineers, or will be forwarded upon receipt of \$5. Laws & Lovejoy reserve the right to reject any or all bids.

D. D. & C. M. ROGERS,  
Engineers,  
Daytona, Fla.

## ADVERTISEMENTS

### TOO LATE FOR CLASSIFICATION.

## BRIDGE PLANT

#### FOR SALE ON

### SOUTHERN RAILWAY

Side track to plant, buildings, machinery all ready to operate. Will sell at bargain.

#### For full information address

### W. E. SHARPE BURLINGTON, N. C.

#### BARGAIN

### Woodworking Machinery

24" x 12" four-side

#### FAY ENDLESS BED PLANER

In condition to run immediately.

JAMES H. BROWN, 297 Clifton Place, Brooklyn, N. Y.

## SPIRAL PIPE

#### FOR SALE CHEAP

9000 feet Galvanized Spiral Riveted Flanged Pipe, size 9". Heavy gauge, in first-class serviceable condition, suitable for dredge work, air pressure, etc. Will make very attractive price in quantities.

#### MARINE METAL & SUPPLY CO.

167 South Street,

NEW YORK CITY.



## Special Advertisements of General Interest.

### An Up-to-date Wood Working and Saw Mill Plant for Sale

Complete in every particular. Covering 2½ acres of land in the center of Norfolk, now doing a business of over \$100,000 per year. For sale cheap.  
Details furnished on application.

**ABBOTT MORRIS & CO.**

**NORFOLK, VA.**

### GEORGIA FARM LAND FOR SALE

About 10,000 acres fertile farm land within 38 miles of Savannah, Georgia; healthy location and good water, suitable for colonization. A good stand of yellow pine timber, estimated at 20,000,000 feet and thousands of cords of wood. Located for seven miles on two main line railroads, giving low freight rates, secured by water transportation competition, to Northern markets, with all-year markets close at hand. Will not divide tract. Will sell outright or put in property and take interest with financially able developing company.

**W. W. ROBERTSON, Owner**

**NORFOLK, VA.**

### The Newly Formed Industry

#### The Established Plant That's Going to Move

or the going manufactory that contemplates starting a branch plant, will be interested in the sites we have for sale, located in Canton, the industrial suburb of Baltimore. Both waterfront and inland. The Penna. and the B. & O. run right through the property, giving unlimited transportation facilities.

These choice sites are suitable for Woodworking Plants of all kinds, Iron and Steel Plants, Machine and Boiler Works, Fertilizer and Broom Factories, Building Material Plants, and almost any other kind of industry.

We will gladly go into detail with those interested.

**J. LINDSAY CLARK & CO.**

State Bank of Maryland Building,

**BALTIMORE, MD.**

### Notice of Public Sale by the Trustee of the Property of the

## GEORGIA COTTON MILLS

of Dublin, Laurens County, Georgia

Notice is hereby given that the undersigned Trustee, under that certain Mortgage Deed of Trust executed by the Georgia Cotton Mills, a corporation of Dublin, Laurens county, Georgia, on the first day of March, 1909, recorded in the office of the Clerk of the Superior Court of the said county of Laurens in Book 64, pages 19 et seq., to secure the issue of bonds therein mentioned, and also as Trustee under that certain other Mortgage Deed of Trust executed by the said Georgia Cotton Mills on the first day of October, 1910, recorded in said Clerk's office in Book 58, pages 510 et seq., to secure the issue of bonds therein mentioned, defaults having occurred under the provisions of both mortgages, will sell at public outcry, to the highest and best bidder, and in accordance with the terms and provisions of the said Mortgage Deeds of Trust, at Dublin, Laurens county, Georgia, before the County Courthouse door, between the legal hours of sale, on the first Tuesday in December next, to wit, on Tuesday, December 4, 1911, all the property described in the said two Mortgage Deeds of Trust and mortgaged or intended to be mortgaged thereby, to wit:

That tract of land containing sixty-three and sixty-five hundredths (63.65) acres, more or less, situated in said county of Laurens, State of Georgia, in the three hundred and forty-second (342) district G. M., and being a part of lot of land number one hundred and sixty-four (164), and described in a plat recorded with a deed from W. W. Robinson to the Dublin Cotton Mills, dated November 29, 1899, in the office of the Clerk of the Superior Court of Laurens County in Book 8 of Deeds, folios 54 and 55; also that tract lying in the First Land District of Laurens county, Georgia, known as the Robinson Mill Place or Lot, containing twelve (12) acres, more or less, less two (2) tracts of two (2) acres each sold off from said tract; also that tract containing two (2) acres, more or less, being in the First Land District of said Laurens county. The cotton-mill buildings and machinery of the said Georgia Cotton Mills being located on said property.

Also, all the entire textile machinery of every character located in the cotton-mill buildings on the above-described premises, comprising what is known as machinery for an eight thousand (8000) spindle mill, two hundred and sixty (260) looms, made by the Lowell Machine Shop, including the auxiliary machinery, mill fixtures, engines and boilers, belts, pulleys, shafting, tools, lathes, drills, electric-light engine and dynamo, elevator, fire apparatus and mill supplies.

All of the property of the Georgia Cotton Mills, mortgaged or intended to be mortgaged by said Mortgage Deeds of Trust, will be sold, and reference is made to the said two mortgage Deeds of Trust for a more particular and full description of the said property.

Said sale being made in order to collect the principal and interest of all of the bonds secured by said two mortgages, and all taxes, disbursements, incident to the preservation and protection of said property, expenses, fees, commissions and costs, as provided in said two mortgages.

Terms cash. Purchaser paying for title.

This August 28, 1911.

**THE CITIZENS' AND SOUTHERN BANK,**

By M. B. Lane, President,

Trustee,

Savannah, Georgia.

**ADAMS & ADAMS,**

Attorneys for Trustee,

Savannah, Ga.

## BELLE ISLAND TRACT

### On Lake Lee, Washington County, Mississippi

Belle Island has both railroad and river shipping facilities. About 5 miles long and 2 miles wide. Lake Lee one-fourth mile wide, 10 to 60 feet deep, and about 12 miles long. Beautiful body of water, noted for its abundance of fish, and river front of over 2 miles. Exact number of acres not known, but probably 7000. Will yield over one bale per acre, often 1½ and 2 bales. Rich flood-fertilized soil and vapor-laden air from surrounding lake and river make the peculiar combination which specially adapts it for raising long staple cotton, selling from 15 to 30 cents a pound, according to length of staple. Greenville, with over 10,000 population, only 9 miles distant by railroad, where entire Belle Island crop could be sold, on any business day of the year, for spot cash.

No \$150 per acre land in Illinois, or any other Northern or Western Wheat or Corn State, can equal in annual money profit, per acre, the land on this Island.

Only large tract in Yazoo Delta, with Mississippi River at one end and railroad at the other end, and nearly surrounded by navigable lake. No one can be qualified to estimate the bargain to be had until examination of this property.

Circular, with full particulars, sent on request.

Members { New York Stock Exchange.  
New York Cotton Exchange.  
New Orleans Cotton Exchange.  
New York Coffee Exchange.  
Liverpool Cotton Assn. (Associate).

**Atwood Violet & Company**

20 Broad Street

**NEW YORK**



## NOTICE OF SALE OF PROPERTY OF THE German-American Company AT DRAPER, N. C.

NOTICE is hereby given that by virtue of a certain decree made and entered in the Circuit Court of the United States for the Western District of North Carolina, at Greensboro, in a certain cause therein pending, wherein The New York Trust Company as Trustee is complainant and the German-American Company is defendant, the undersigned Special Master Commissioner will expose for sale at public auction for cash on the premises of the German-American Company at Draper, Rockingham County, North Carolina, at 2 o'clock P. M. on Thursday, the 7th day of December, 1911, the following described property covered by and included in the deed of trust executed by the German-American Company to the New York Trust Company, Trustee, and referred to and described in the said decree, to wit:

First: That tract or parcel of land, lying and being in Leaksville Township in said Rockingham County, containing 57.84 acres, more or less (save and excepting what is owned as a right of way by the Danville & Western Railway Co.).

Second: That tract or parcel of land, lying and being in said Leaksville Township, containing 23.45 acres, more or less (save and excepting what is owned as a right of way by the Danville & Western Railway Co.).

Third: That tract or parcel of land, lying and being in said Leaksville Township adjoining "First" and "Second" above, the J. W. Bethell place (now owned by B. Frank Melane), land of the Rockingham Company and others containing 74.26 acres, more or less.

Fourth: All the cotton mill and other machinery and fixtures of every kind whatsoever now belonging to said German-American Company and situated on the land above described or hereafter acquired by said Company and placed upon said premises.

There is also included under the lien of the said mortgage or deed of trust and will be sold at the said same time and place the following described mill, machinery and fixtures which had either been acquired at the time of the execution and delivery of the said mortgage or deed of trust and were included therein or were subsequently acquired in accordance with the provisions thereof and placed upon the said land hereinbefore described, to wit:

One 1-story brick mill building, all modern construction, 131x223 feet;  
One 2-story engine and boiler house, 62x80 feet;  
One 1-story brick picker and opening room, 50x100 feet;  
Two 1-story brick warehouses, each 50x100 feet;  
Five Lombard 150-horse-power boilers;  
One 1000 horse-power cross compound Harris Corliss engine.

The said mill building contains 22,032 ring spindles for the manufacture of knitting and warp yarns, and the necessary roving machinery, spoolers, twister spindles, cone winders, Penn warpers, etc.

Also:  
250 Johnson & Bassett heavy mule spindles;  
12 sets Henderson woolen cards;  
51.67", 104-75" and 68-82" four box Crompton & Knowles heavy blanket looms.

There are also the following tenement houses upon the land conveyed in the deed of trust:

2—2-room houses.  
31—3-room houses.  
57—4-room houses.  
3—5-room houses.  
14—6-room houses.  
1—12-room boarding house.  
5—store buildings.

All of the property above described as included in the deed of trust will be sold as one parcel.

No bid for less than Four Hundred and Thirty-five Thousand (\$435,000) Dollars will be received. No bid for any of the above described mortgaged property will be received unless the bidder shall place in the hands of the undersigned at the time of his bidding, as a part of his bid and a pledge to make the same good if accepted and the sale confirmed, the sum of One Thousand (\$1000) Dollars in cash, certified check or certificate of deposit, approved by the undersigned, which same shall be forfeited in case the bidder, if successful, shall fail to make good his bid and comply with the terms of the decree herein and by orders hereafter made as to future payments or otherwise, but said sum shall be applied on the purchase price in case of such compliance or returned in case the bid is not successful or the sale be not confirmed by the Court. The remainder of the purchase price shall be payable upon confirmation of said sale by the said Circuit Court and the tender to the purchaser of a proper deed for the said property. Holders of receiver's certificates or bonds secured by the said mortgage are entitled to the privilege of using the same in bidding for the said property in the manner and upon the terms specified in the decree, to which reference is made.

Notice is further given that at the same time and place the undersigned will offer for sale at public auction for cash pursuant to and under the authority of the said decree, the following described personal property of the said German-American Company not embraced in the said deed of trust, to wit:

All cotton on hand, cotton in process of manufacture, cotton goods, mill supplies, and all other tangible personal property of the said German-American Company not embraced in the deed of trust heretofore referred to and not theretofore disposed of. No bid for the said last named property of less than Ten Thousand (\$10,000) Dollars will be received, nor will the undersigned accept any bid for the said last named property unless the bidder shall place in his hands at the time of his bidding as a part of his bid and a pledge to make the sale good, if accepted, and the sale confirmed, the sum of Five Hundred (\$500) Dollars in cash, certified check or certificate of deposit to be held by the undersigned subject to the same terms as the deposit required in the case of the mortgaged property hereinbefore specified, the remainder of the purchase price for the said last named property to be payable when the said sale is confirmed and a proper deed or bill of sale for the property is tendered to the purchaser.

The said sale may be adjourned or postponed, if necessary, from the time and place hereinbefore mentioned, by public announcement, to be made at the time and place of sale, and both of said sales are made subject to the confirmation of the Circuit Court of the United States.

The right is reserved to the Court to reject any bid and to resell the property or any part thereof upon failure of the purchaser to comply with the terms of sale or with any order of the Court as to payment of the purchase price or any part thereof.

This the 25th day of October, 1911.

JAMES F. JORDAN,  
Special Master, Commissioner,  
Greensboro, N. C.

## Valuable Manufacturing and Commercial Property FOR LEASE IN ATLANTA

On account of our having moved our plant to a much larger site, the property formerly occupied by us on the corner of Whitehall Street and Stewart Avenue can be leased for a term of years. The property is about 12 squares from all the principal freight stations in Atlanta, and it is located on the Southern Railway, with two side tracks on the property. A suitable office building located on the property is immediately available, and from a convenient shipping and advertising standpoint this property is hardly excelled in the City of Atlanta.

For information or terms, address

**VIRGINIA BRIDGE & IRON CO.**  
J. W. LEROUX, District Manager, ATLANTA, GA.

## SUBJECT TO LEASE



**Hotel Dempsey**  
Midland City Hotel Company  
OWNERS  
MACON, GEORGIA  
WILL BE COMPLETED BY  
**October 1, 1912**  
SUBJECT TO LEASE  
BY  
EXPERIENCED HOTEL MAN  
FOR TERM OF  
TEN YEARS OR MORE  
WILL CONTAIN  
Over 200 Rooms  
All Modern Improvements  
ADDRESS  
N. M. BLOCK, Chairman

**J. T. KIMBROUGH**  
**WE LOCATE MANUFACTURERS**  
**REAL ESTATE**  
409-10 Atlanta National Bank Bldg. ATLANTA, GA.

## Three Cotton Mills for Sale

Central Mills, 7168 spindles  
Spalding Cotton Mill, 9984 spindles  
Boyd-Mangham Manufacturing Co., 13,888 spindles

The entire plants, including all real estate, mill buildings, tenement houses, etc., of the three above cotton mills, in bankruptcy, located in and near Griffin, Georgia, will be sold separately at public sale before the Court House door in Griffin, Spalding County, Georgia, on Saturday, December 9th, 1911, between the hours of eleven o'clock in the morning and four o'clock in the afternoon, to the highest bidder.

For description of the properties, conditions of sale and other information, address any of the undersigned trustees.

T. E. PATTERSON,  
WILLIAM H. BECK,  
Griffin, Ga.  
ROSSER & BRANDON,  
SMITH, HASTINGS & RANSOM,  
Atlanta, Ga.  
Attorneys for Trustees.

ROSWELL H. DRAKE, Griffin, Ga.  
JOHN K. OTTLEY, Atlanta, Ga.  
T. D. MEADOR, Atlanta, Ga.

## FACTORY SITES FARM LANDS

Business Opportunities, Timber Lands,  
Realty Investments

We will take pleasure in submitting information pertaining to either of the above departments.

S. L. NUSBAUM & CO.

600 Citizens' Bank Bldg. Norfolk, Va.

Controlling interest in  
a Large Manufacturing  
Plant, running at full  
blast—For Sale. Capital-  
ization \$150,000.00.  
Address Zell, care of  
Manufacturers Record,  
Baltimore, Md.

Complete Saw Mill Plant, Dry Kiln  
and Logging Equipment

FOR SALE

Mill has a daily capacity of 25,000 feet. Logging outfit consists of Locomotive, three and one-half miles of tramroad and six log trucks. Eighteen to twenty million feet of choice Pine timber, well blocked. Mill located about 35 miles south of Savannah, on the Seaboard Air Line Railway. Fifteen to twenty million feet additional timber can be had in easy reach of this plant. For full particulars address

ALBERT FENDIG & CO., Brunswick, Ga.

## BANKRUPT SALE

## VENEER PLANT

For Sale—One complete veneer plant with an up-to-date drying system. The plant, including lot and buildings, cost approximately \$40,000. The machinery alone cost about \$26,000. The plant is situated in the suburbs of Jackson, Alabama, on the Southern Railroad, one-fourth of a mile from the Tombigbee River. The capacity of the plant is about 75,000 feet of 1/4-inch veneers per day.

For further information apply to or write

G. G. WARREN, Trustee,  
Jackson, Alabama.

## TRUCK BASKETS

We have facilities for making more bottoms and tops than can use for truck baskets. We will be pleased to make contracts for surplus.

INDEPENDENT MANUFACTURING CO.,  
CASTLE HAYNE, N. C.

## Stone Quarry & Crushing Plant FOR SALE

Location, Wake county, North Carolina. Steady demand for entire output at good prices. No other quarry in this section. Capacity, 300 tons crushed stone per day. Will sell cheap.

AMERICAN STONE CO.,  
P. O. Box 538, Richmond, Va.

## WANTED

## Location for Silk Mill

Silk Mill—An old-established firm wishes to start a branch mill in the Middle South where plenty of good labor and cheap power can be obtained. Would employ 300 or more. Give full particulars in reply. Address Silk Co., care Manufacturers Record.



## Bargains in Machinery and Supplies.

### DYNAMOS and MOTORS

#### Direct Connected Units

#### Belted Generators

#### Alternating Current Motors

#### Direct Current Motors

#### 300 OF THEM

Thoroughly overhauled and fully guaranteed.

In stock for immediate delivery.

We Buy, Sell, Repair, Rent or Exchange.

### E. LEVENE & CO.

124 N. 3rd St., Philadelphia

### Gas Power and Electrical Equipment

#### FOR SALE

A 105-horse-power "Otto" Gas Producer Engine; engine, dynamo, producer, switch-board and electrical equipment, complete. Erected one year ago. No expense was spared to make this a model installation. Particulars and description can be found on page 120 of the March number of "Metal Industry." Can be inspected upon application.

THOMAS A. PAINTER,  
79 Eighth Ave., New York.

### Heater and Purifier

#### FOR SALE

One second-hand "BERRYMAN" HEATER AND PURIFIER in perfect condition and guaranteed good as new. Will sell cheap for cash. ADDRESS

M. F., care Manufacturers Record,  
BALTIMORE, MD.

### 100 H. P. Engine

#### FOR SALE

One McEwen Center-Crank Engine, 13x14, normal 100 H. P. This engine is in the very best of condition and is for immediate delivery. Will sell at less than real value to quick buyer.

ELECTRIC LIGHTING PLANT,  
Johnston, S. C.

### 100 K. W.

#### Direct Connected Set

Consisting of a 100 K. W. 125 v. 8-pole Westinghouse Generator, direct connected to a 14x20x18 tandem Compound Erie Ball Engine.

\$1500.00 f. o. b. Cars

500 Dynamos and Motors always in stock.

### GEORGE SACHSENMAIER CO.

143-45 No. 3rd St., PHILADELPHIA, PA.

If you need a Dynamo and Motor, get our price.

### LIGHTING DYNAMOS

40-light General Electric, speed 1350.  
75-light Allis-Chalmers, speed 1300.  
100-light Triumph, speed 1400.  
150-light Westinghouse, speed 1200.  
200-light Westinghouse, speed 875.  
250-light Westinghouse, speed 825.  
300-light General Electric, speed 900.  
450-light Westinghouse, speed 600.  
Condition Guaranteed.

110-volt. 250-volt. 500-volt.

A. C. and D. C. Motors and Generators in stock. Send for Bargain List.

MILLER-OWEN ELECTRIC CO.,  
217-219 First Ave., Pittsburgh, Pa.



16th and Lincoln Sts., CHICAGO.

We have the largest stock of second-hand electrical machinery in the world. Send for our "monthly Bargain sheet," showing complete stock with net prices. We can save you fully one-third. All machines completely overhauled, tested and shipped practically "as good as new."

### FOR SALE CHEAP

Four 100 H. P. Portable Return Flue Boilers. 12"x18" Erie City Engine. 12"x16" Birmingham Engine. 18"x22" H. S. & G. Engine. R. Hand Knife Grinder. 10" Outside Molder.

Tampa Machinery Exchange, Tampa, Fla.

### DYNAMOS and MOTORS

I buy, sell, rent and exchange. The best and the cheapest. Let me know what you have for sale and what you want to buy.

THOMAS YEARSLEY

211 N. 3rd Street Philadelphia, Pa.

#### FOR SALE

One 20"x24"x13 1/2"x20" Norwalk Compressor. One 13"x12" Ball Engine. One 15"x14" Ball Engine. One 20"x48" Corliss Engine. One 13"x16" Center-Crank Slide-Valve Engine. One 12 1/2"x15" Hoisting Engine, double drums 54" diameter. One 7"x10" D. C. D. Hoisting Engine and Boiler. Three 5"x8" Double-Drum Hoisting Engines and Boilers. One 6 1/2"x10" Double-Drum Hoisting Engine and Boiler. One Deane 12 and 20"x10 1/2"x12" Duplex Piston Pattern Pump.

CHAS. T. LEHMAN, - Birmingham, Ala.

## Do You Need MACHINE TOOLS?

We have a large and well-selected stock in our warehouse at prices that will materially reduce your equipment bills. Let us give you details of some of the following tools.

#### LATHES

1 60"x16" "Fifield," internally geared face-plate.....\$1400.00  
1 48"x12" "Fifield," internally geared face-plate.....1250.00  
2 42"x32" "Draper," one has taper attachment, \$1250.00 each; taper \$100.00 extra.  
1 40"x18" "Fifield".....1350.00  
1 40"x16" "Fifield," internally geared face-plate.....1250.00  
1 38"x18" "Fifield," internally geared face-plate.....1250.00  
1 33"x16" "Fitchburg".....700.00  
1 32"x32" "Fifield".....1200.00  
1 30"x14" "Fifield".....475.00  
1 26"x10" "Fifield".....550.00  
1 20"x10" "Fifield".....400.00  
1 22"x10" "Fifield".....350.00  
1 16"x6" "LeBlonde".....250.00  
3 14"x6" "LeBlonde," each.....225.00

#### PLANERS

1 52"x52"x23" 9" "Betts," one head.....1600.00  
1 42"x36"x12" "American," open side.....2250.00  
1 40"x40"x10" "Powell," one head.....900.00  
2 30"x30"x6" "Sellers," one head.....190.00

#### RADIAL DRILLS

1 72" "Bickford," plain.....650.00  
1 54" "Bickford," universal.....525.00  
1 54" "Bickford," plain.....750.00

#### BORING MILLS

1 60", one head, vertical.....400.00  
1 57" "Bullard," two heads, vertical.....800.00  
1 54" "Newton," horizontal.....450.00

#### PIPE MACHINES

1 10" "Curtis & Curtis".....250.00  
1 6" "Cox & Sons".....400.00  
1 No. 2 "Eaton, Cole & Burnham," 1 to 4".....350.00  
1 No. 2 "Bignall & Keeler".....240.00

#### PRESSES

2 No. 2 1/2 pattern "Phila. Machine Co.".....165.00  
1 No. 2 "Biliss".....450.00  
1 P-1 "Ferracute".....115.00

#### HAMMERS

1 1500-lb. steam "McDougall & Potter".....900.00  
1 800-lb. steam drop "Bement-Miles".....650.00  
1 500-lb. "Champion Beaudry".....450.00  
1 400-lb. "Champion Beaudry".....350.00  
1 150-lb. belt-power "Scranton".....325.00

#### GEAR CUTTER

1 72" "Gould & Eberhardt".....850.00  
Our large, well-planned and lighted warehouse makes critical examination of any tool easy and affords the best facilities for quick and safe handling of heavy pieces.

L. F. SEYFERT'S SONS, Inc.

437 - 439 - 441 N. 3d St., Philadelphia

### HOWARD W. READ COMPANY

3d and Arch Sts.  
PHILADELPHIA, PA.

### Boilers, Engines, Pumps

#### Hoisting Engines

Every Size and Every Duty

Immediate Shipment  
Catalogue on Request

In revising our manufacturing equipment, we find the following first-class

### Used Machine Tools

which we offer at attractive prices

#### ENGINE LATHES

14 in. x 6 ft. Flather, Q. C. G.  
16 in. x 6 ft. Hendey, Q. C. G.  
16 in. x 6 ft. Pratt & Whitney, Q. C. G.  
16 in. x 8 ft. Reed.  
18 in. x 6 ft. Lodge & Shipley, Q. C. G.  
18 in. x 8 ft. Lodge & Shipley, Q. C. G.  
18 in. x 10 ft. Lodge & Shipley, Q. C. G.  
20 in. x 8 ft. Lodge & Shipley, Q. C. G.  
20 in. x 10 ft. Lodge & Shipley, Q. C. G.  
22 in. x 14 ft. Lodge & Shipley, Q. C. G.  
24 in. x 8 ft. Lodge & Shipley, Q. C. G.  
24 in. x 10 ft. Lodge & Shipley, Q. C. G.  
27 in. x 10 ft. Lodge & Shipley, Q. C. G.  
36 in. x 12 ft. Lodge & Shipley, Q. C. G.  
36 in. x 14 ft. New Haven.

#### SPECIAL LATHES

24 in. x 7 ft. Lodge & Shipley Chucking Lathe. Fitchburg Lo-swing Lathe.  
No. 3 Lodge & Shipley Rapid Reduction Lathe.

#### PLANERS

36 in. x 36 in. x 10 ft. Sellers.

#### METAL SAWS

No. 3 Nutter-Barnes Cold Saw.  
Franklin Cold Saw, 3 1/2 in. capacity.  
Globe Power Hack Saw, 8 in. capacity.  
Universal Power Hack Saw, 6 in. capacity.

#### MISCELLANEOUS MACHINES

Whitton Centering Machine.  
Schuster Riveting Machine.  
Mumford 12 in. x 40 in. Molding Machine.  
Write for complete description with prices of machines in which you are interested.  
THE LODGE & SHIPLEY MACHINE TOOL CO.  
CINCINNATI, OHIO

### IN STOCK

Immediate Delivery, Rebuilt and Guaranteed

One (1) 2" Acme Bolt Cutter.  
One (1) 1 1/2" Acme Bolt Cutter.  
One (1) 1 1/4" Acme Bolt Cutter.  
Two (2) 28" Barnes B. G. P. F. S. H. Drills.  
One (1) 22" Garvin S. H. Drill.  
One (1) 20" Prentice W. F. Drill.  
One (1) 16" Niles F. F. Drill.

#### LATHES

One (1) 36"x24" New Haven, practically new.  
One (1) 26"x13" Fifield, triple geared, practically new.  
One (1) 24"x11" Garvin 1 1/2" H. S.  
Three (3) 25"x12" Davis H. S.  
Two (2) 22"x12" Schumacher & Boye.  
One (1) 22"x12" Dietz & Gang.  
Two (2) 20"x11" Wright.  
One (1) 20"x11" 6" New Haven.  
One (1) 18"x8" Hendey T. A.  
One (1) 16"x6" Harrington.

#### SHAPERS

Two (2) 28" Juengst.  
One (1) 20" Cincinnati.  
Two (2) 15" Smith & Mills.

#### MISCELLANEOUS

One (1) 3" Bickford Radial Drill.  
30" Bullard Turret Head Boring Mill.  
One (1) 150-ton Sellers Wheel Press.  
Three (3) Bement Keyseaters.  
One (1) 48" Bement Car Wheel Boring Mill with Crane.  
One (1) 14" Mits & Merrill Keyseater.  
One (1) 14" Newark Slotter.  
One (1) 40"x8" Newark Binsee Horiz. Boring Mill.  
Six (6) Sellers and Niles Axle Lathes.  
One (1) No. 3 Long & Alstatter Punch and Shear.  
Two (2) 20" Higley Cut-off Saws.  
Chase Grinder.  
Two (2) 500 lbs. Merrill Board Drop Hammers.  
One (1) 500 lbs. Bement Steam Hammer.  
One (1) 25 lbs. Bradley Helve Hammer.  
Coultter & McKenzie Spring Tapering Machine.  
Large number of Spring Benders, Spring Eye and Bending Machines.  
One (1) set 5" Boiler Rolls, 3/4" capacity.  
43" Boiler Rolls, hand driven.  
Merrill Trimming Press.  
Two (2) 25" gap Allen Pne. Riveters.  
Grinders, Saws, Emery Wheels, Anvils, Flat-terers, etc., etc.

BOILERS, ENGINES and GENERAL MACHINERY. Note my adv. in last week's issue. Send for special list. Correspondence solicited.

HERMAN L. WINTERER,

908-910 Beach St., Philadelphia, Pa

## SECOND-HAND Machine Tools

#### LATHES.

10x44 Lodge & Davis, chucks fitted.  
11x4 Mann, R. & F.  
14x6 Davis, plain rest.  
18x8 Le Blond, plain rest, chuck, P. C. F.  
18x8 Reed, compound rest, P. C. F.  
18x8 Fay & Scott, plain rest, P. C. F.  
18x8 Lodge & Shipley, patent head chuck.  
20x8 McMahon, compound rest, chuck.  
20x8 Fay & Scott, compound rest, P. C. F.  
24x14 Reed, high speed.  
27x12 Pratt & Whitney, C. R., P. C. F.  
28x10 Putnam, C. R., P. C. F.  
28x10 Gleason, compound rest, taper.  
30x12 Pond, C. R., P. C. F.  
32x17 Bement-Miles, C. R., triple geared.  
36x16 Reed, compound rest, P. C. F.  
40x18 Newark, triple geared, C. R., P. C. F.  
46x38 Fitchburg, T. G., C. R., P. C. F.  
102x35 Bement, compound rest, T. G.  
21x14 Powell, compound rest, P. C. F.  
24x14 Niles, compound rest, P. C. F.  
26x13 Fitchburg, compound rest, P. C. F.  
54x20 Fitchburg, C. R.

#### SCREW MACHINES.

2x24 Jones & Lamson, flat turret.  
20x6 Bardner & Oliver, friction head.  
No. 2 1/2" Warner & Swasey, wire feed.  
No. 2 1/2" Garvin, wire feed, friction head.  
No. 1 Garvin, wire feed.  
3/4" National Acme, automatic.  
No. 6 Brown & Sharpe, friction head.  
1" Smurr & Kamen, wire feed.  
1/2", 3/4", 1" and 2 1/2" Pratt & Whitney automatics.  
No. 3 2" Pratt & Whitney, wire feed.  
No. 2 1/2" Pratt & Whitney, wire feed.  
No. 1 7-16" Pratt & Whitney, wire feed.

#### MILLERS.

No. 2 Cincinnati, plain.  
No. 4 Cincinnati, plain.  
No. 2 Le Blonde, plain, back gears.  
No. 2 Pratt & Whitney, Lincoln pattern.  
No. 24 Brainerd, plain, back gears.

No. 1 Cincinnati, universal.  
No. 2 Brown & Sharpe, plain.  
No. 3 Cincinnati, plain.  
No. 12 Brown & Sharpe, manufacturers.

#### DRILLS.

20" Prentice Bros., power feed.  
15" Slate, sensitive.  
4" Bickford, plain radial.  
No. 25 Foote-Burk, high speed.  
F 12" Baker Bros.  
10-spindle Gardam, adjustable.  
40" New Haven, sliding head, back gears.  
30" Gang, plain radial.  
5" Bausch, plain radial.  
7-spindle Slate, bedstead.

#### SHAPERS.

12" Gould & Eberhardt, crank.  
15" and 20" Hendey, friction.  
13" Lodge & Davis, crank.  
23" Cincinnati, geared.

#### MISCELLANEOUS.

Boring Mill, 37" Bullard, 2 heads.  
Grinder, Sellers, universal tool.  
Planer, 36x36x8 Betts, 1 head.  
Planer, 26x26x8 Pond, 2 heads.  
Planer, 36x36x12 Betts, 4 heads.  
Planer, 48x48x8 Farrell, 1 head.  
Planer, 48x48x15 Pond, 3 heads.  
Boring Mill, 10" Pond.  
Grinder, Walker, electric surface.  
Grinder, No. 2 1/2" Bath, universal.  
Gas Engine, 5 H. P., Fairbanks.  
Hammer, 50 lbs., Bradley, compact.  
Hammer, 1000 lbs., Pratt & Whitney, drop.  
Gear Cutter, 16x4 Gould & Eberhardt.  
Grinder, 12x42 Landis, universal.  
Pipe Machine, No. 6 1/2", Merrill.  
Slotter, 16", Bement, motor driven.  
Keyseater, No. 2 Davis.  
Brake, 8" Niagara.  
Pipe Machine, 3" Jarecki.  
Gas Furnace, No. 17 American.

## Prentiss Tool & Supply Company

149 Broadway, New York

**IN STOCK**

Rebuilt and guaranteed for immediate delivery

**BOILERS**

3 22"x18" Horizontal Return Tubular, 150 H. P. each, 120 lbs. steam.  
3 20"x18" Horizontal Return Tubular, 80 H. P. each, 125 lbs. steam.  
1 14"x16" Horizontal Return Tubular, 70 H. P., 100 lbs. steam.  
1 150 H. P. Manning Vertical Tubular, 125 lbs. steam.  
1 100 H. P. Erie City Economic, 100 lbs. steam.  
1 150 H. P. Locomotive, 100 lbs. steam.  
Large stock of Return Tubular and Vertical types, all sizes.

**ENGINES**

30"x18" Watts-Campbell Corliss.  
28"x18" Reynolds, double.  
24"x18" Cooper Tandem Compound.  
22"x12" Greene.  
20"x12" Buckeye.  
18"x12" Greene.  
16"x12" Allis.  
14"x20" Russell.  
12"x22" Greene.  
12"x30" Rollins.  
Large stock of smaller sizes, also Automatic and Plain Slide Valve, Vertical and Horizontal.

**AIR COMPRESSORS**

16"x20"x27"-17"x30" Laidlow-Dunn-Gordon Compound, two-stage, 1700 cu. ft.  
24"x24"x30" Rand Single Straight-Line, 1300 cu. ft.  
22"x24"x24" Ingersoll-Sargeant Straight-Line, Class A, 975 cu. ft.  
14"x14"x14" Hall Horizontal Straight-Line, 330 cu. ft.  
12"x12"x18" Ingersoll-Sargeant, 275 cu. ft.  
Large stock of smaller sizes and Belt Driven Compressors.

**DIRECT CONNECTED GENERATORS**

50 K. W. 125-volt D. C. Westinghouse 6-pole Generator, direct connected to 10"x18"x10" Westinghouse Compound Engine, 315 R. P. M.  
150-ampere 115-volt American 4-pole Generator, direct connected to 9"x10" American Horizontal Engine.

**BELTED GENERATORS**

1 100 K. W. 220-volt D. C. General Electric, three bearing type, 540 R. P. M.  
1 150 K. W. 550-volt D. C. General Electric Generators, 550 R. P. M.  
1 100 K. W. 550-volt D. C. General Electric Generators, 650 R. P. M.  
Large stock of Dynamos and Motors.

**HOISTING ENGINES**

11"x14" Flory, D. C., S. D.  
10"x10" D. C., S. D., link motion.  
8"x12" Webster, Camp & Lane, D. C., S. D.  
7"x10" Lidgerwood, D. C., D. D., 40"x7" boiler.  
7"x8" Copeland & Bacon, D. C., S. D.  
6"x10" Davis, S. C., S. D.  
6"x10" Mundy, D. C., D. D.

**WESTINGHOUSE ENGINES**

1 13"x22"x13" Westinghouse Compound, 125 H. P.  
1 12"x20"x12" Westinghouse Compound, 100 H. P.  
1 11"x18"x11" Westinghouse Compound, 80-130 H. P.  
1 10"x18"x10" Westinghouse Compound, 65-100 H. P.  
Large stock of Junior and Standard types.

**HEATERS**

1 1200 H. P. Webster Open Heater.  
Large stock smaller sizes.

**PUMPS, GAS AND GASOLINE ENGINES, STONE CRUSHERS AND GENERAL EQUIPMENT****MACHINE TOOLS****PLANERS**

34"x27"x7" Matawan.  
27"x27"x5" New Haven.  
23"x25"x6" Harrington.  
23"x25"x6" Harrington.  
26"x26"x7" Wheeler.  
30"x30"x8" Pease.

**LATHES**

48"x20" Triple Geared Lathe, raising blocks to 56".  
36"x16" Triple Geared.  
36"x11" Screw Cutting Lathe.  
22"x18" Harrington.  
20"x10" Rahn-Carpenter.  
20"x10" Rahn-Carpenter Gap Lathe.  
20"x10" Harrington, taper attachment.  
18"x10" Fitchburg.  
16"x8" Rahn-Carpenter.  
16"x8" Bradford.  
15"x8" Carroll-Jamelson.  
15"x6" Carroll-Jamelson.  
14"x8" American, with gap.

**MILLING MACHINES**

No. 2A Owen Full Universal, with vertical spindle attachment.  
No. 2 1/2 Pratt & Whitney Horizontal Miller, table 11"x5".  
About 20 Lincoln Type Milling Machines.

**SHAPERS**

16" American.  
20" Gould & Eberhardt.  
20"x20" Pedrick & Ayer, open side.  
20" Steptoe.  
14" Steptoe.

**PRESSES**

PG-5 Ferracute.

**DRILLS**

48" Gang Radial.  
36" Morris Radial.  
42" Hilles & Jones.  
20" Plain.

**MISCELLANEOUS**

Mitts & Merrill Keyseater.  
100-lb. Little Giant Hammer.  
50-lb. Little Giant Hammer.  
15-lb. Little Giant Trip Hammer.  
1 1/2" Wells Bros. Bolt Cutter.  
48" Gang Radial Drill.  
36"x12" Slab Miller.  
Two No. 5 Springfield Oscillating Surface Grinders.  
Two No. 14 Garvin Turret Lathes.  
800-lb. Bement-Miles Single Frame Steam Hammer.

**FRANK TOOMEY, Inc.**

127-131 N. 3rd St. - Philadelphia, Pa.

**WE BUY**

AND

**DISMANTLE****Factories****Mills****Machine Shops**

and all kinds of

**Industrial Plants**

We are always in the market to buy

**Scrap Iron and Steel**

OF EVERY KIND

**FRANK SAMUEL**

Harrison Building

15th and Market Streets

PHILADELPHIA, PA.

**Engines, Generator and Deep Well Head For Sale Cheap**

One 9x8 Erieco Self-Oiling Automatic Engine, direct connected to Akron Elect. 30 K. W. 125 V. D. C. Generator.  
One 13x12 Erieco S. O. Aut. Engine on sub-base.  
One 10x36 Deep-Well Head; used 17 months.  
COGHLIN MACHINERY & SUPPLY CO., Toledo, Ohio.

**SAW AND ENGINES FOR SALE**

One Second-Hand J. A. Fay & Egan Co. No. 146 Band, Rip and Resaw, practically new.

ALSO

Four Steam Engines, various sizes.

The Ober Mfg. Co., Chagrin Falls, Ohio

**TANKS AND MACHINERY**

4 7x10 Lidgerwood Hoists, with Boilers.  
1 100 H. P. Erie Fire-Box Boiler, B. S., 125 pounds.  
1 10x10 Ingersoll Belted Compressor.  
8000 and 10,000-gallon Steel Tanks.

ILLINOIS MACHINERY CO., 1224 Marquette Bldg., Chicago, Ill.

**STEAM DRY PAN FOR SALE CHEAP**

Practically new; only 60 days' use; 60 inches wide by 55 feet long; 3-inch steam space; pan good for 100-pound pressure; has drag chain, complete, to stir and drag the material over the pan. This pan is suitable for drying clays, shales, brick and minerals. Will sell cheap.

TAMMS SILICA CO., Tamms, Illinois.

**HOLLOW PLATE STEAM PRESS FOR SALE**

Nine plates 42" x 30" complete with pulleys, steam chest and pipes. Press in good condition. Will sell cheap.

SHAUGHNESSY KNITTING COMPANY, Watertown, N. Y.

**MANSFIELD ENGINE FOR SALE**

16x24, complete in every detail, ready for immediate operation without expense for repairs or replacements. No reasonable offer refused.

OHIO CLAY PRODUCT CO., Salineville, Ohio

**ENGINES AND CONTRACTORS' EQUIPMENT FOR SALE**

Three pairs twin Corliss engines, cylinders 20 by 42. Will sell at sacrifice. Guaranteed in first-class condition and can be delivered immediately. Can be separated if desired.

Also the following—87 Ellison 4-yard dump cars, 36 gauge; 75 tons relay rails, 45 and 60 pounds 1 Mundy 7 by 10 D. C. and D. D. hoisting engine. Cheap to quick buyer. Address

BOSTON IRON & METAL CO., BALTIMORE, MD.

**Rebuilt Engines and Boilers**

Engines—Corliss.—18x48 Lane & Bodley, 18x48 Ohio Heavy Duty, 16x48 Allis, 18x36 Lane & Bodley.

Engines—Automatic.—14x24 Buckeye, 11x16 Buffalo Compound, 13x16 Taylor, 13x16 Atlas, 12x12 Harrisburg-Ideal, 12x12 Phoenix, 12x14 Green, 12x12 Armstrong & Sims, 11x16 Atlas, 10x12 Valley, 8x14 Noyes.

Engines—Throttling.—18x24 Atlas, 14x18 Sinker-Davis, 14x14 Lewis Vertical, 12x16 Reed, 12x14 Brownell, 10x16 Bass, 10x12 Atlas, 9x14 Lane & Bodley, 8x10 Erie, 6x8 Industrial.

Boilers—Stationary.—72x18, 66x16 High-Pressure, 72x18 Standard, 72x16, 66x14, 60x14, 60x14, 54x14, 48x14, 44x14, 44x12, 42x12, 36x16, etc.

Boilers—Fire Box.—100, 80, 60, 40, 35, 30, 25, 20, 16, 12, 10 and 8 H. P., etc.

Boilers—Vertical.—50, 40, 35, 30, 25, 20, 16, 12, 10, 8, 5 and 3 H. P., etc.

Heaters.—All sizes, Open and Closed.

Pumps.—All sizes, Single and Duplex.

Electrical.—30 K. W. Generator, direct connected to 8x10 Skinner Engine; 20 K. W. Generator, direct connected to 8x10 Economic Engine; 18 K. W. Belted Generator.

Miscellaneous.—Sawmills, Lath Mills, Edgers, Cut-off Saws, Re-Saws, Blowers, Exhaust Fans, Tanks, etc. Write for list. Also full assortment of new machinery.

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Furnished with new threads and couplings, suitable for all practical purposes; large stock constantly on hand, together with a general assortment of used contractors machinery.

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PIPE for pipe lines. PIPE for casing. PIPE for drilling. PIPE for tubing. Complete stock, sizes 1 to 12".

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2 10x16 Baldwin 36" S. T. Locomotives.  
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3 10-ton 3-wheel New York Road Rollers.  
1 5-ton Tandem Ironclad Asphalt Roller.  
1 2 1/2-ton Tandem Ironclad Asphalt Roller.  
1 26-ton Little Giant Special Traction Steam Shovel.

1 26-ton Little Giant Standard Traction Steam Shovel.

5 Lambert D. D., with boom swings, Electric Hoists, 30, 40 and 60 H. P., 220 volts.

30 Hoisting Engines, Lambert, Mundy, Lidgerwood, skeleton or mounted, with and without boom swings, 6 to 50 H. P.

2000 ft. 9" Spiral Riveted Galvanized Pipe (hanged).

8 Steel Guy Derricks, 70' masts.

35 Wood Guy Derricks, 50 to 91' masts.

Steam Pumps, Boilers, Rock Drills, Derricks, etc. Let us have your inquiries.

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1 14"x42" Girder Frame Corliss Engine.  
3 66"x16" Horizontal Tubular Boilers, 125 lbs.

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1 18x18x10 Worthington Duplex Steam Pump.

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200 High-grade Vault Doors.  
200 1000 to 8000-gallon capacity Tanks.  
Write for our Bargain List No. 239.

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Good order. Taken out and replaced by electric motors. Write for specifications and prices.

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Hudson Terminal Bldg. NEW YORK

Send for "Bargain List" of Engines, Boilers, Generators, etc.

**Engines, Boilers, Generators, etc.**

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Engines direct connected to generators. SEND for list and prices.

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1 18x42 Lane & Bodley.

1 20x48 Wetherill.  
1 22x48 Hamilton.  
1 24x42 Atlas.  
Automatic Engines of all sizes.

1 40-ton Corliss Engine Type De La Vergne Ice Machine.  
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1 lot Brewery Tanks.  
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10,000 TONS

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56, 60, 70 lbs. per yard.

PROMPT SHIPMENTS

NEW FROGS AND SWITCHES,  
SPIKES, BOLTS,

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SPICES AND ANGLE JOINTS  
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Also four cheaper coaches, 48'  
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PROMPT DELIVERY  
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With Splices and Spikes.  
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4 Miles First-Class 45-lb. Relayers.  
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Immediate Shipment.

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Low price to move quick.

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Manufacturers of

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12, 16, 20 and 25-lb. Sections. Also  
Splices, Bolts, Nuts and Spikes. Our  
Rails are first quality. A. S. C. E.  
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175 tons, 56 lbs. per yard.

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### New Steel Rails with Fastenings

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LOCOMOTIVES—Narrow and Standard  
Gauge. 150 Locomotives at our shops 6  
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200 tons with angle bars. Uniform section  
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Special Track Work of Every  
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THE CINCINNATI FROG & SWITCH CO.  
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Flat, Box, Stock, Caboose and Logging  
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15 Locomotives, 36 and standard gauges.  
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Other Machinery, Logging Cars and Rail.  
Prompt Dispatch and Moderate Charges.  
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One standard-gauge 42-ton Shay, nearly new,  
in Alabama.

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Also fifty other standard and 3-foot gauge  
Locomotives at our shops in Birmingham.  
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2 miles of 35-lb. rails in perfect condi-  
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1,000,000 feet of second-hand pipe from  
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Only AIR DUMP CAR under absolute control of operator. Can be brought back to upright position, after passing center of gravity, before entire contents of car have been unloaded. This admits of equal distribution of material on both sides of track. Write THE WM. J. OLIVER MFG. CO., KNOXVILLE, TENN., AND 50 CHURCH ST., NEW YORK, N. Y.

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I have for sale (@ 1/3 list price, carbons excepted) a Sullivan "B" Diamond Core Drill, with appurtenances complete. Address

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Reduce Cost of Carrying Logs to the Mill

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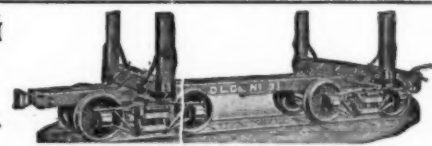
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Locomotive Rebuilding a Specialty



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FOR SALE AT ERIE, PA.; NEWARK, N. Y.; HIGH FALLS, N. Y.

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Aerial Tramway  
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Crushers  
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Dredge  
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Advise your requirements or write for booklet, giving detailed descriptions of plant offered.

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## Hoisting Engine

FOR SALE

Two three-drum tandem Lidgerwood Hoisting Engines, size 14x18, D. C., reverse link motion and friction drums, equally as good as new.

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We also manufacture Rivets, Machine and Carriage Bolts, Merchant Bar Iron, Bar Steel, Muck and Scrap Bars.



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Steam Shovels, Dredges,  
Drag Line Excavators, Wrecking Cranes,  
Unloading Plows, Loco Pile Drivers.

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Not a theory, but a practical fact, as is proven by several years of constant use under various trunk lines.

Note the "V" shaped centers of the base of these Ties—overcomes center binding, so common in all other Ties; and so conducive to spreading tracks. See the spiking device with its four parts to each Tie; compare these with the eight to twenty-eight parts in every other Tie on the market.

Every one of these parts must be purchased, installed, and constantly watched; any one of them becoming injured or misplaced may cause serious damage and loss of life. Even assuming that ours required constant care and replacing, there are but one-half to one-seventh as many parts to look after and to replace in ours as in any other Tie on earth, and consequently proportionately less parts to get out of order and cause wrecks.

The fewer the parts the lower the cost of maintenance.

Trains are running sixty miles an hour over these Ties, and have been so running for more than five years; yet they have had no repairs or even tightening of the spiking devices.

The only composite Tie before the public today, as investigations will show, and the only one that has sustained itself under actual traffic conditions for any length of time.

The best Tie for terminals, because it is permanent.

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The best tie for main lines and heavy traffic, because it is absolutely dependable under all conditions, as we can show in roads using them.

Do you know of a railroad Tie that has been in use under a trunk line railroad for four, or even two years that is in apparently as good condition today as when installed?

Do you know of a railroad Tie that has held track true to gauge and in perfect alignment without attention for two, three or four years?

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Do you know of a Tie with a spiking device or rail fastening which has fulfilled every claim and far more, in that it has maintained track true to gauge under disastrous wrecks?

We have all of these, and not only one, but hundreds of them in use today, as we can show.

The charter of this company is in course of preparation, and those desiring shares should write at once, since only a limited amount of the capital stock will be sold, all of which will be fully paid and non-assessable. A meeting of stockholders for the election of officers will immediately follow, due notice of which will be given those interested.

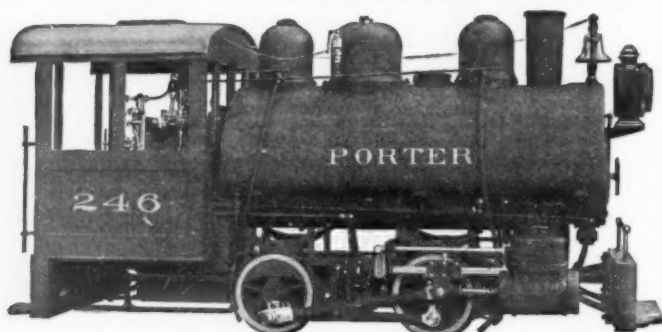
Please make remittances for subscriptions to the stock to the Whitney-Central Trust and Savings Bank, New Orleans, who will issue proper receipt for same. Correspondence solicited.

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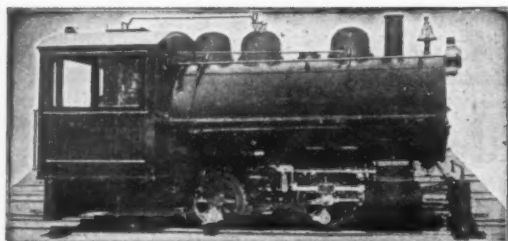
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For all Gauges of Track and Every Variety of Service, including Mine, Furnace, Lumber, Plantation, Industrial and Contractors' use. Locomotives 36" and 56 1/2" Gauge on Hand for Immediate Delivery. Tenth Edition Catalog mailed to intending purchaser.

**J. K. PORTER COMPANY, 412 Wood St. PITTSBURGH, PA.**

**LIMA LOCOMOTIVES****CONTRACTORS' DINKEYS**

We have recently placed on the market one of the most improved types of Dinkeys. If interested, write us for catalog "O."

36" and 56 1/2" gauge in stock for immediate delivery.

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**THE LIMA LOCOMOTIVE & MACHINE CO.**

110 Third Street,  
LIMA, OHIO

**LOCOMOTIVES**

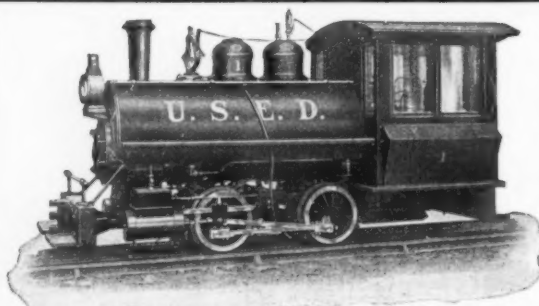
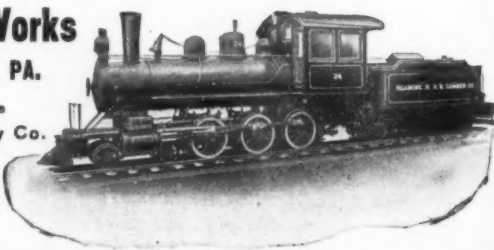
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Designed to burn Coal, Wood or Oil Fuel

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DAVENPORT, IOWA

**THE WEIR FROG CO.**  
Manufacturers of

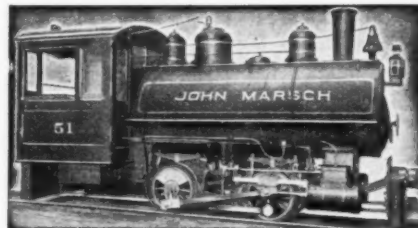
**Frogs, Switches, Crossings, Rail Braces etc**  
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Philadelphia, Pa., U. S. A.  
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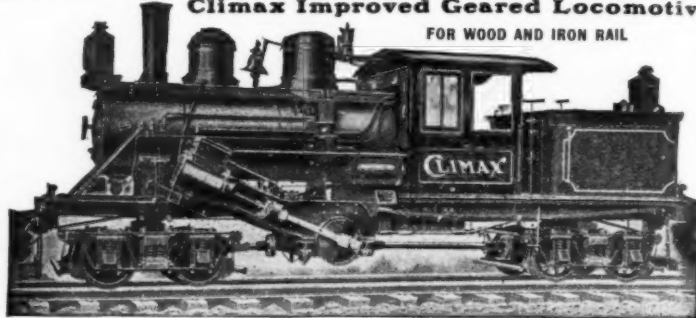
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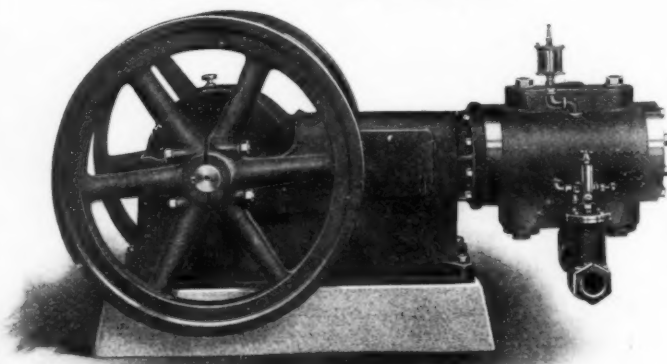
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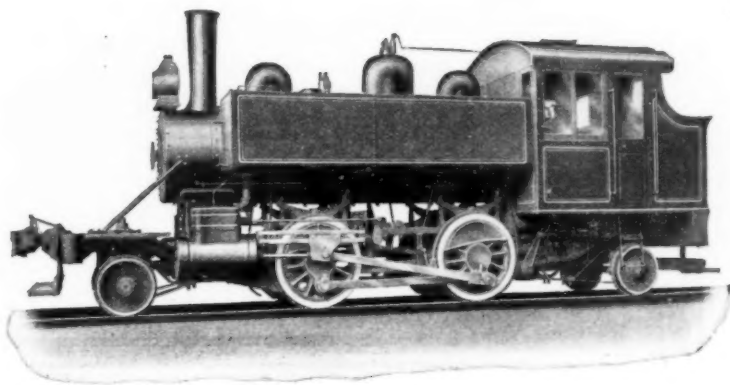
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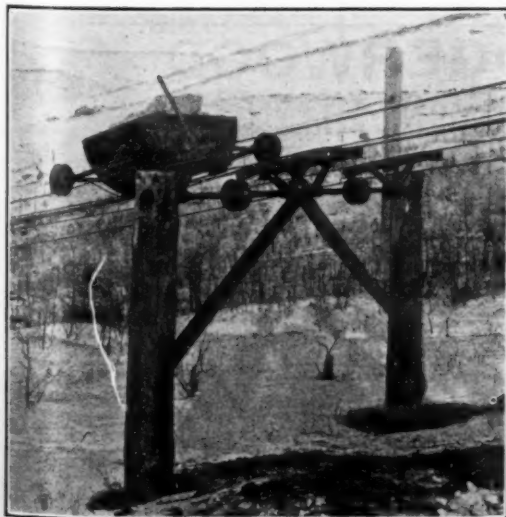
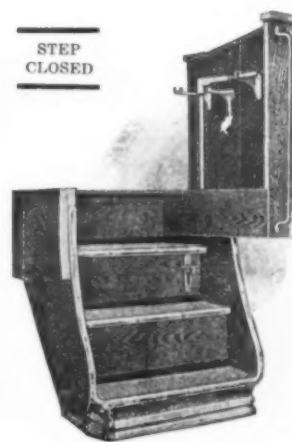
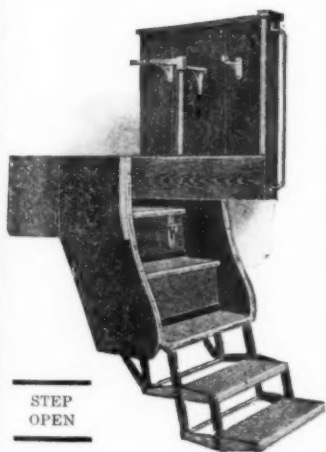
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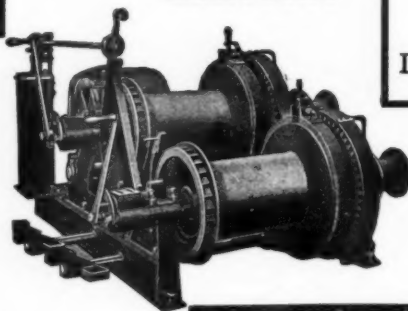
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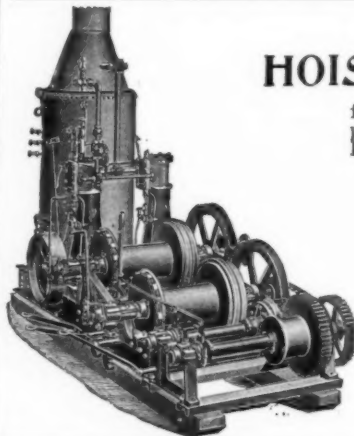
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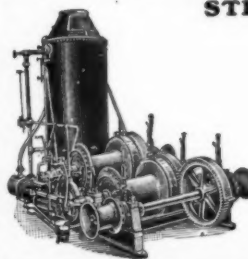
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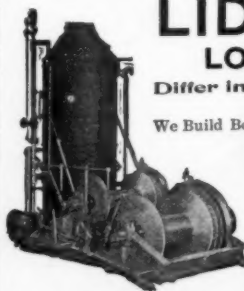
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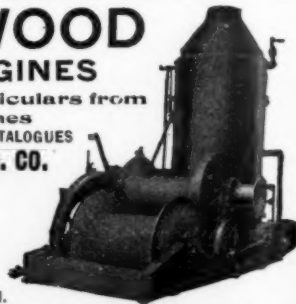
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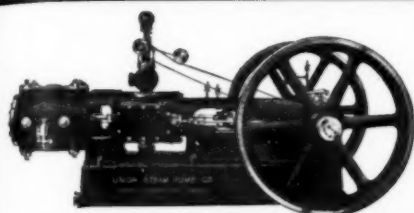
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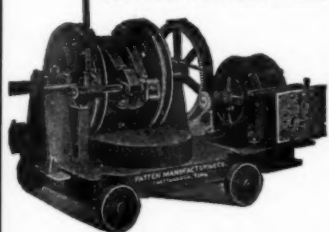
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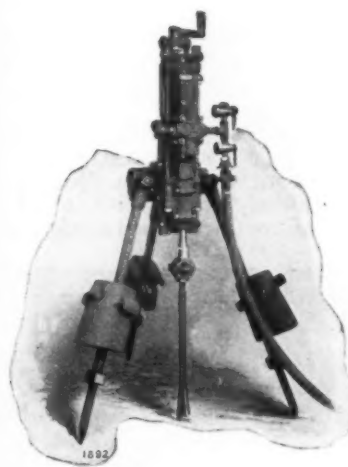
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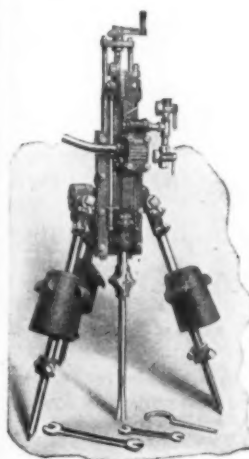
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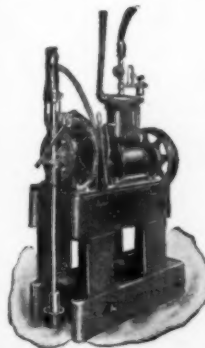
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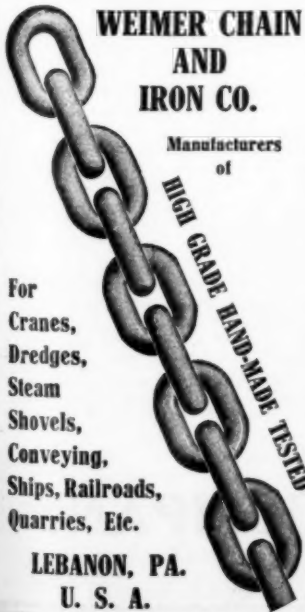
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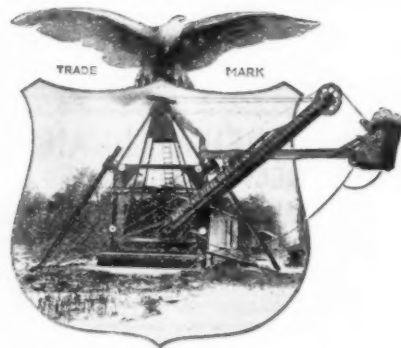


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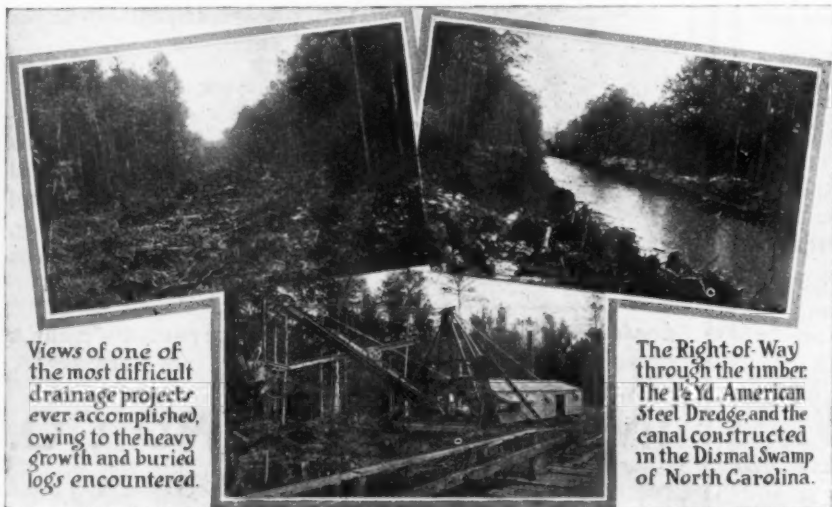
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Hayward Skid Excavators and Hayward Floating Dredges are not handicapped in their operation because the width of the excavating is too great. Hayward Buckets can be operated upon booms of any length.

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They are light of weight and are easily moved. They can work alone or in pairs. They can be used on land or on scows.

Upper View,  
Illustration No. A 915

Lower View,  
Illustration No. C 181



Illustration C 181 shows a Hayward Bucket digging through heavy turf, snags and saw grass. Hardness and compactness of material govern the size and type of the bucket to be used. The sizes for canal work range from 5 cu. ft. to 3 cu. yds. The buckets can also be used in rehandling crushed stone, sand or whatever materials are needed in construction work.

Illustration A 915 gives an idea of the clean-cut work a Hayward Skid Excavator does in digging a canal, giving regular slopes to the banks.

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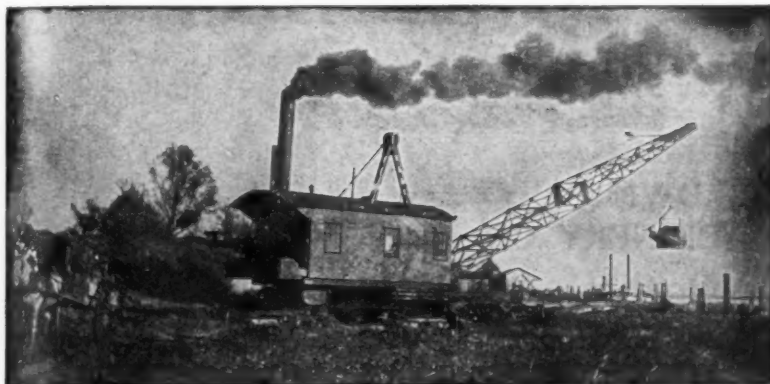
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1, 1 1-2, 2 and 2 1-2  
Cu. Yard Capacity



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No. 2 Excavator with 70 ft. boom and 2 yard bucket



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Special Dredge and  
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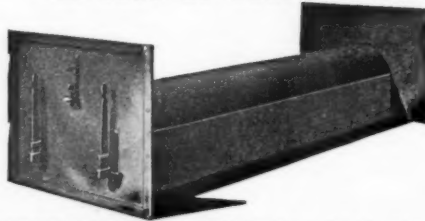
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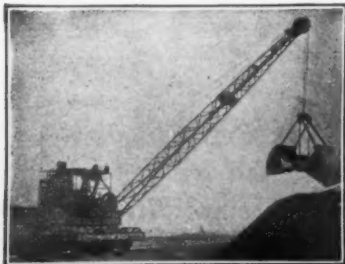
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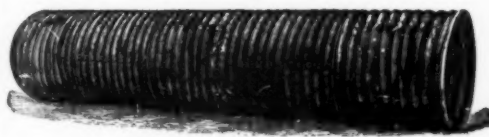
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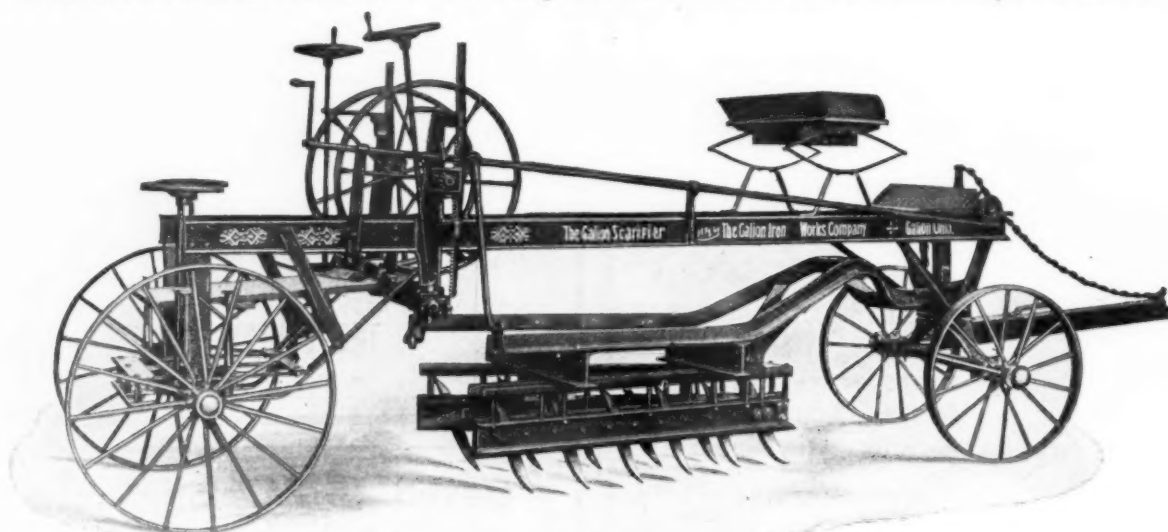
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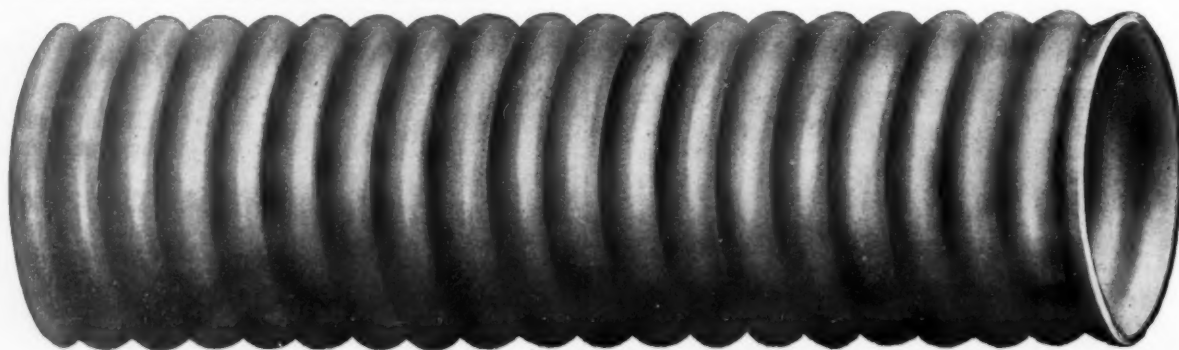


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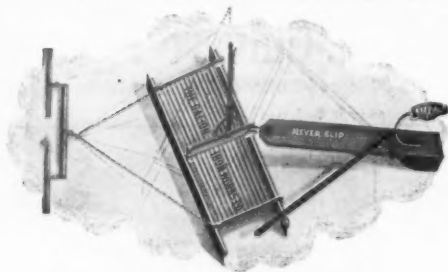
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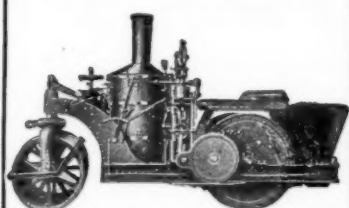
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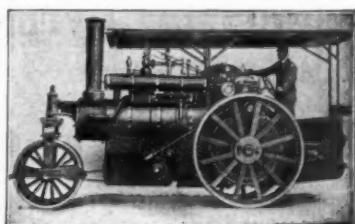
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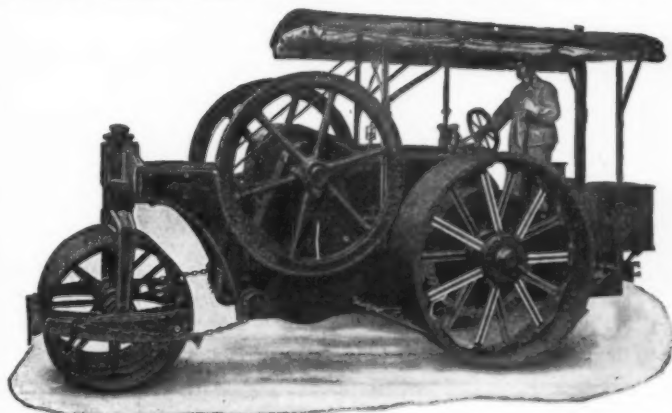
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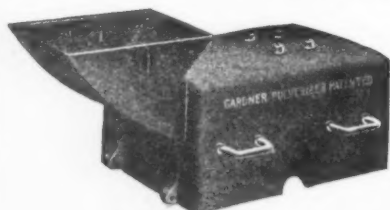
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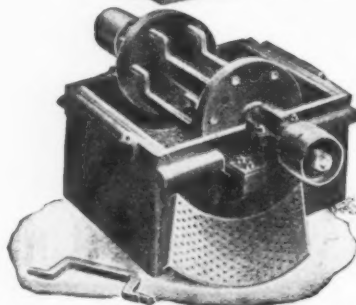
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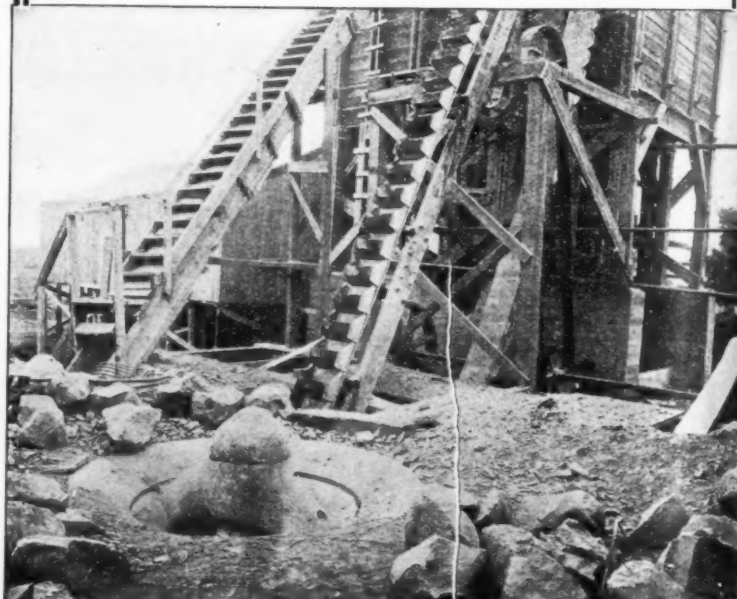
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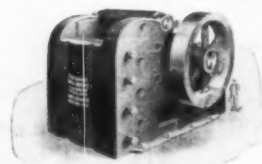
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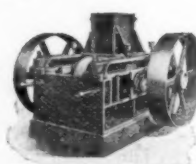
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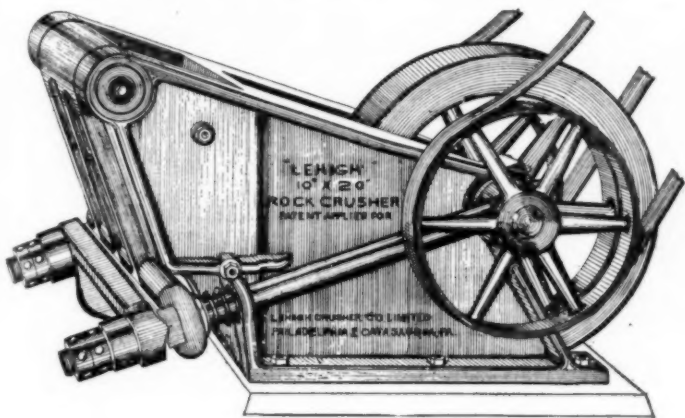
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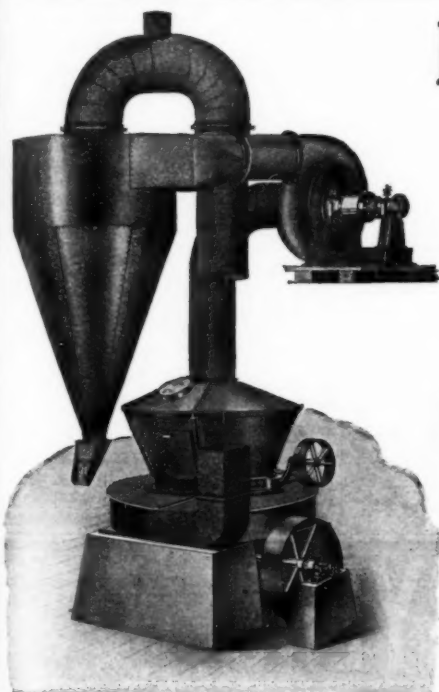
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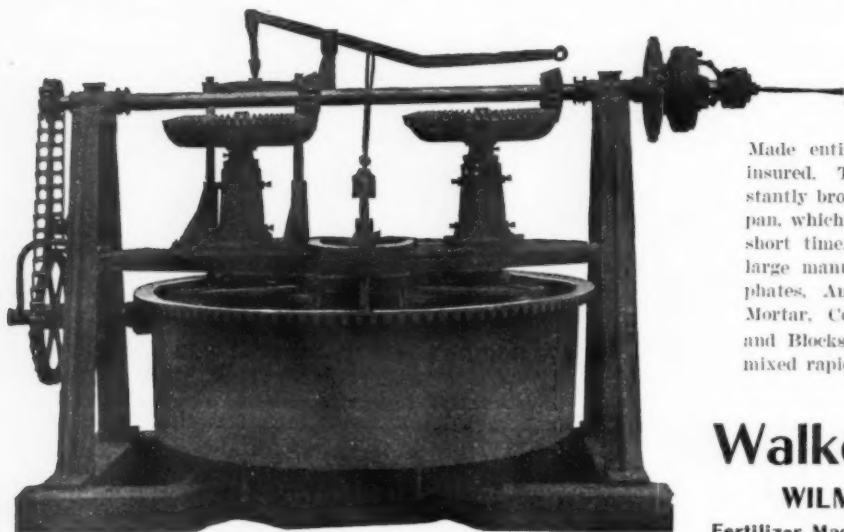
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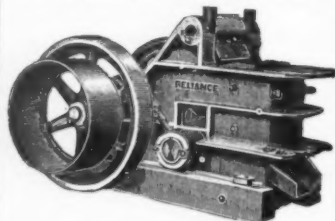
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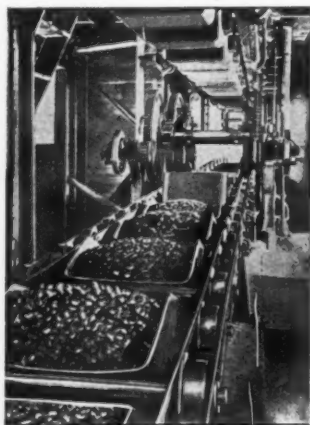
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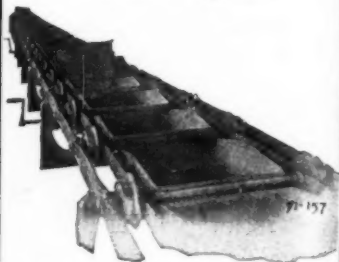
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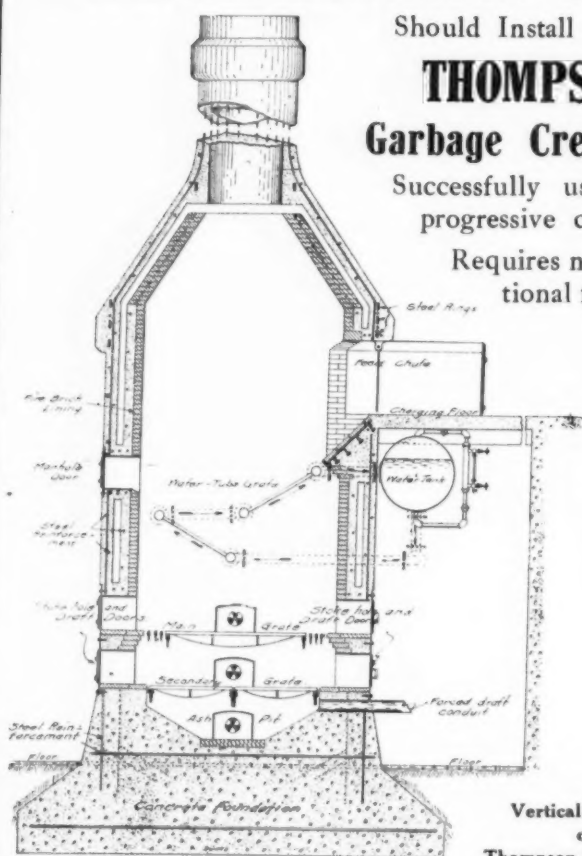
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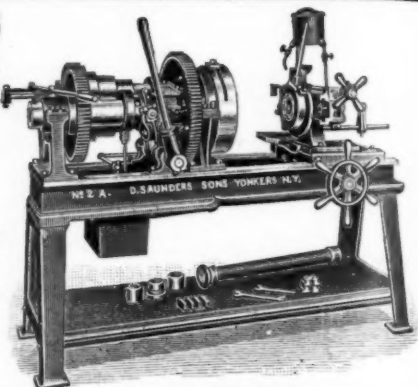
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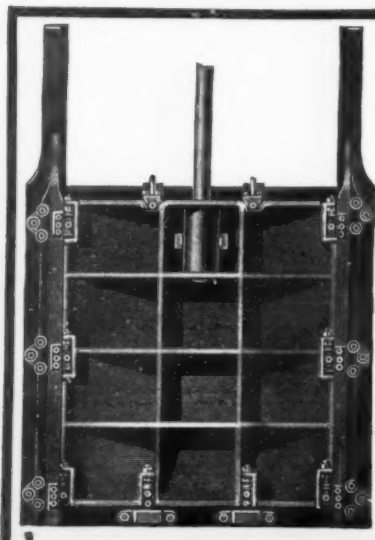
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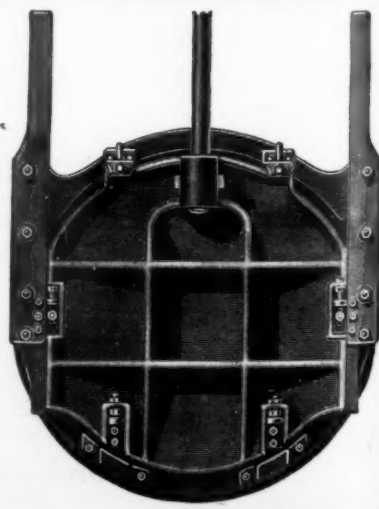
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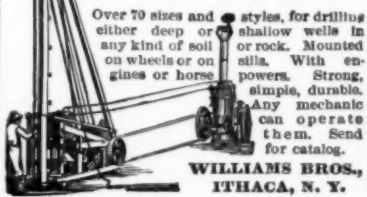
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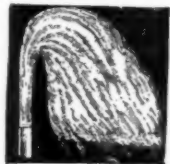
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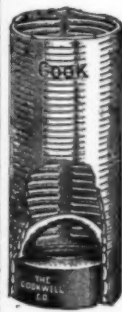
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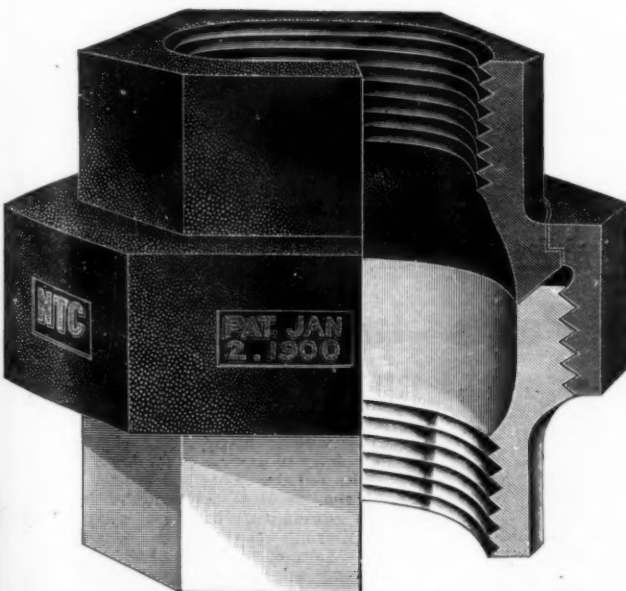
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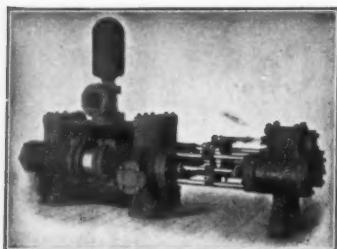
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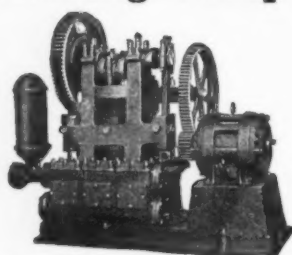
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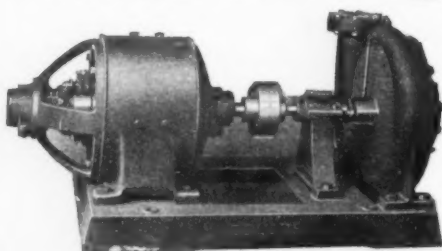
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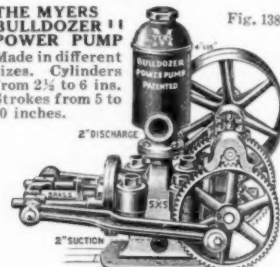
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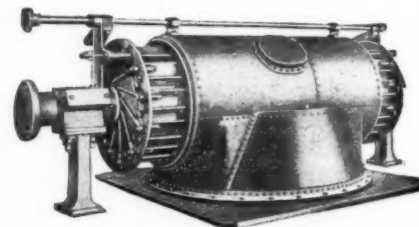
Fig. 1389



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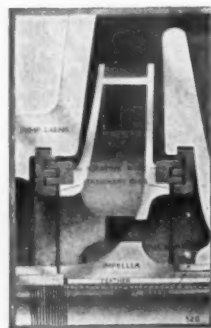
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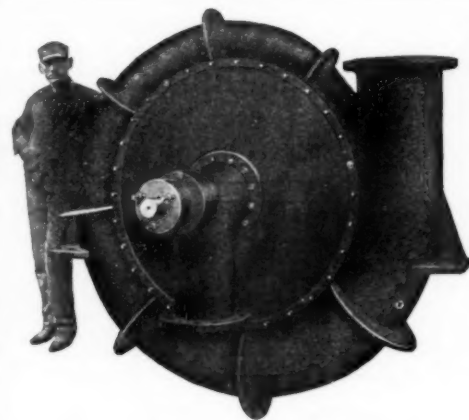
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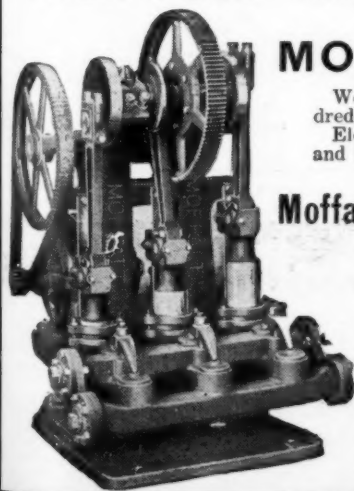
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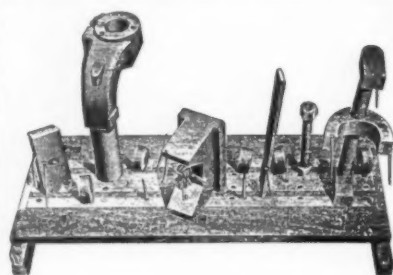
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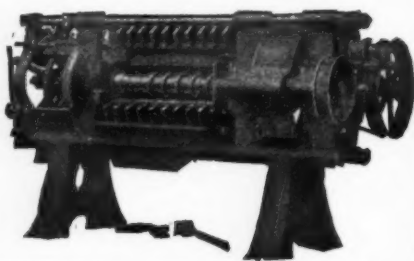
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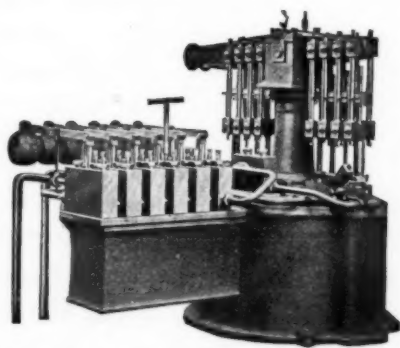
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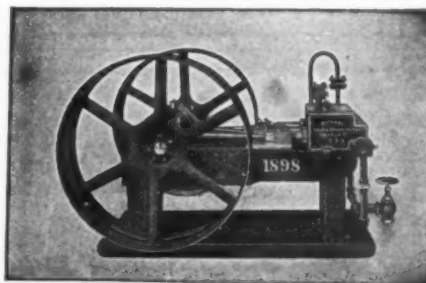
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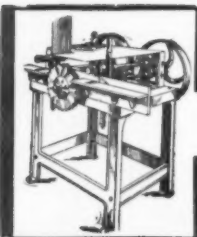
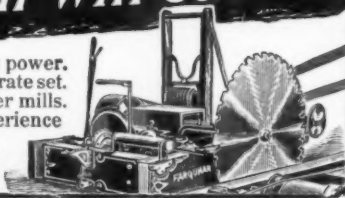
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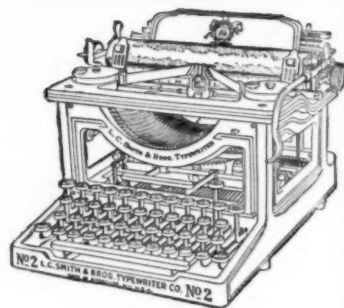
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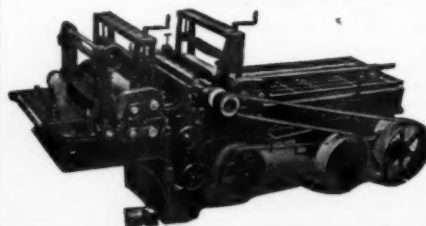
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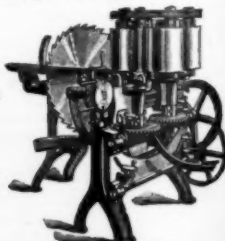
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offers many peculiar advantages, such, for instance, as location and low freight rates, both incoming and outgoing.

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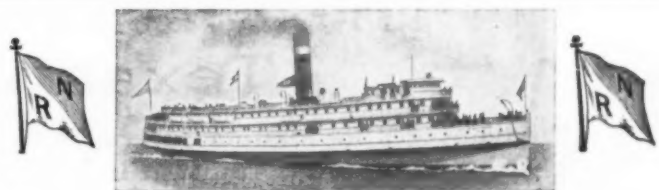
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In Montgomery, Chattanooga, Rome, Atlanta, Macon, Columbus, Birmingham and a number of other cities and towns along the Central of Georgia Railway are factory sites which are ideal from every standpoint.

Your Iron, Coal, Coke, Timber and other raw materials are procurable at the lowest cost and in any quantities you need, as you need them, from immense supplies under your hand on every side. Efficient labor is plentiful, and water power abundant and inexpensive.

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The progress that this district has made along industrial, commercial and agricultural lines during the past few years is but an indication of the prosperity that will mark its future. In it is the rational location for your factory. Any information you desire will be sent gladly and promptly upon request.

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## There Are Reasons

**Why the Southeast Offers Exceptional  
Advantages to Manufacturers**

Few, if any, sections on this great continent offer brighter possibilities to energetic manufacturers, business men or investors than the Southeastern United States, traversed by the

### Southern Ry. System

The census figures for the decade 1900-1910 show that the Southeast is making greater development than any part of the country. The large returns from farm crops and the prosperity of the factories have wonderfully increased the purchasing capacity of every Southeastern community.

The people of the Southeast furnish a splendid market for all kinds of factory products, many lines of which are not now made in the South.

This all means that the manufacturers who first establish themselves in this fertile field, supplying this great, growing market, will build a business and future on a more solid and substantial foundation than could be possible in any other part of the country.

### The Raw Material is Here

The Southeast is the logical place for manufacturers to locate. The iron, steel, coal, woods, water-power, low-priced, intelligent labor, most favorable climatic conditions, transportation facilities—all are here at your door.

### Remember the Panama Canal

It is confidentially stated by Mr. Taft that in the summer of 1913 ships will be passing through the Panama Canal. Can you not see wonderful possibilities in this fact alone? It means that the South will be the nearest manufacturing section to the great west coast markets of South America.

### Investigate These Advantages and be Convinced

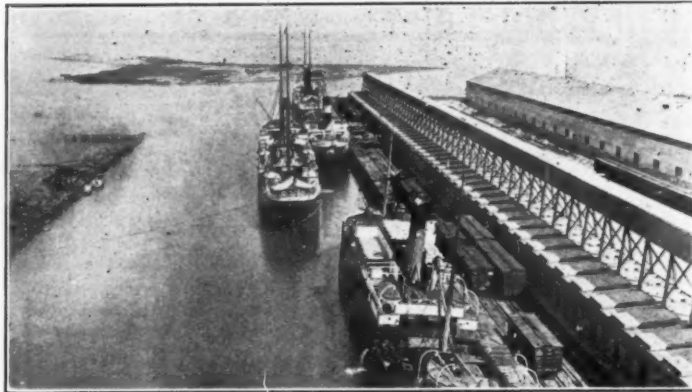
Let us know the line in which you are interested and experienced—ask us any questions—we will do all in our power to aid you.

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Land and Industrial Agent, Southern Railway, Room 52  
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### Texas City's Modern Docks

*It is conceded, that with the opening of the Panama Canal, a port must be developed somewhere along the Gulf Coast of Texas, as an outlet for the tremendous commerce of the vast territory lying in the South and Central West, and extending far into the Dominion of Canada. The promoters of the Texas City Ocean Terminal project have anticipated such a necessity and are providing for it.*



*"Where Rail and Water Commerce Meet"*

*When it is considered that the volume of business for the port of Texas City has more than doubled every year since the first year it was opened to commerce, it is conceivable that its promoters were justified in their belief that here is the logical location for an entrepot for the commerce of the world.*

## The Manufacturers' Mecca Texas City, Texas

**T**HE advantages for manufacturers, as an investigation will readily disclose, are nowhere better than at Texas City, Texas. First, no matter what the article you manufacture, the raw material may be found at Texas City or its immediate vicinity, and the means afforded for cheap and convenient transportation for both the raw material and the finished product. Second, by reason of its location and its excellent rail and water transportation facilities (now recognized as the most modern in the entire South), the manufacturer is placed in direct communication with the markets of the world; and third, a non-competitive field in a zone where the people are progressive and will extend every encouragement consistent with reason. Don't you think you ought to investigate this further?

For Full Information Address

**Texas City Transportation Co.**

**Texas City, Texas**

## West Virginia Clays A Basis for Substantial Industries

In the ten-year period from 1900 to 1910, the value of pottery products made in West Virginia increased from \$631,841 to \$2,675,558.

*A gain of more than 323%.*

And West Virginia now ranks third among the States in this industry.

The value of the pottery output of West Virginia, however, is not in keeping with the State's extensive supply of high grade clays, which from analyses are known to be especially suited to this class of manufacture.

Every requirement for the industry is abundantly available in West Virginia, more so perhaps than in any other State in the Union.

Bearing upon this claim are the following extracts from a report of the State Geological Survey.

"The clay industry of West Virginia has a promising future outlook, and when the many undeveloped deposits become known and are carefully considered in connection with the cheap fuel, excellent railroad and water transportation facilities, and the short distance of its shipping routes to large cities, the industry is bound to increase and develop into one of the very prominent sources of wealth to the State."

"The analyses and the physical tests of West Virginia clays made by the Survey show that these are equal in quality to those found in other States where the clay product output is considerably larger. The reason for this marked contrast in outputs cannot be explained by the absence of good clay deposits in West Virginia, nor by lack of cheap and excellent transportation facilities, nor by remoteness from market; it is due entirely to lack of development, depending in many cases on lack of appreciation of the value of these deposits."

West Virginia clays are not only suited for pottery, but also for the manufacture of refractory, paving and structural materials of various kinds.

Strongly backing the purity and abundance of clays in West Virginia is the State's vast supply of natural gas and coal, which reduces the fuel expense to the lowest minimum, while transportation facilities cannot be excelled for distribution throughout the country.

*Information relative to the clay-working opportunities in West Virginia will be furnished through our Industrial Department.*

## Baltimore & Ohio Railroad

W. W. Wood, Industrial Agent

Baltimore, Md.



## **The Value of Manufactured Products in Florida Increased 112.7 Per Cent. in the Last Decade**

Florida possesses raw materials of a kind and to an extent that justify early investigation by manufacturers.

A large part of its principal raw materials has for years been shipped out of Florida in bulk.

These resources have been, comparatively speaking, scarcely utilized for the manufacture of the many products that could be made within the State, and it is timely to call attention to the rapid progress Florida is making and the profitable openings for new plants.

The census figures show a growth in population of 42% for this State in 10 years.

Florida is enjoying a steady advance in commercial prosperity, and there is being created within the State itself a large and growing demand for supplies and necessities of every character.

This offers a splendid home market, while rail and water transportation facilities, sufficient for every need, bring the markets of the world within reach.

While Florida timber is already widely known, many sections of the State have large areas of virgin cypress and pine which can be worked into important products. This offers innumerable possibilities for manufacturers, and the hardwoods, some of them remarkably quick growers, as yet but little known to the trade, are destined to become of great value.

The underlying limestone throughout the State, which has been commented on so favorably by the United States Geological Survey, would make a Portland cement manufacturing plant an almost certain profitable investment. At present there is no such plant in the State.

While Florida's supremacy in naval stores and phosphates is well known, these vast resources in which the State abounds continue to offer limitless possibilities for manufactures.

Canning plants and sugar manufacturing enterprises will find opportunities here that are not to be excelled anywhere.

The list is a long one. We shall be glad to supply further details.

**Florida East Coast Railway**

J. E. INGRAHAM, Vice-President

ST. AUGUSTINE, FLA.

## A Specific Illustration of the Productiveness of Mississippi and Louisiana Lands

Twenty-five years ago, with definite knowledge of its soil and climate, and therefore with an abiding faith in the agricultural possibilities of the Mississippi Delta lands traversed by its lines, the Illinois Central Railroad decided to concentrate special effort on the development of Tangipahoa Parish, La., to demonstrate exactly what these lands would do.

It selected Hammond, then a settlement of some dozen families, as a "land point" to which home-seekers' tickets might be sold from points north of the Ohio River. This parish had been carefully studied and investigated by the Industrial Department of the railroad, and its opportunities were broadly advertised among Northern and Western farmers.

In 1885, when this work began, not a single carload of farm products was shipped from Tangipahoa Parish, and it was not thought by those living within this parish that anything could be raised on the land.

The results accomplished since that time have been amazing.

In twenty-five years this parish has grown from practically a barren waste land to one rich in productiveness and alive with prosperous farming communities.

The following facts strikingly evidence the growth of this parish:

The population has increased in 25 years.....**300%**

Property assessed values increased in 25 years.....**800%**

There were shipped last year **578 carloads** of berries and vegetables, as compared to *none* 25 years ago.

There were planted last year in corn over **50,000 acres** on land formerly counted by some people as worthless.

Dairy farming is proving one of the most profitable industries, where before it was thought impossible to raise food for cattle.

What has been accomplished in this one parish is typical of what is possible throughout the other lands available for development along the Illinois Central in Louisiana and Mississippi.

These States have millions of acres of wet prairie and cut-over pine lands that offer to the land operator, the capitalist and the home-seeker equally good chances for development in raising truck, fruit, berries, grain, grasses, etc., for dairy farming and for stock raising.

These States, rich in great forests of virgin timber, pine and hardwoods, and in many raw materials for a wide range of manufactures, offer exceptional opportunities for the establishment of many kinds of industries.

Write us  
for full  
information  
about these  
lands.

**Illinois Central Railroad**  
Chicago, Ill.

J. C. Clair,  
Industrial  
and  
Immigration  
Commissioner,  
Chicago, Ill.



## In the Center of A Nation's Industrial Activities

Have you ever carefully analyzed the strategic position occupied by the territory traversed by the Clinchfield in relation to some of the most important consuming markets of the country?

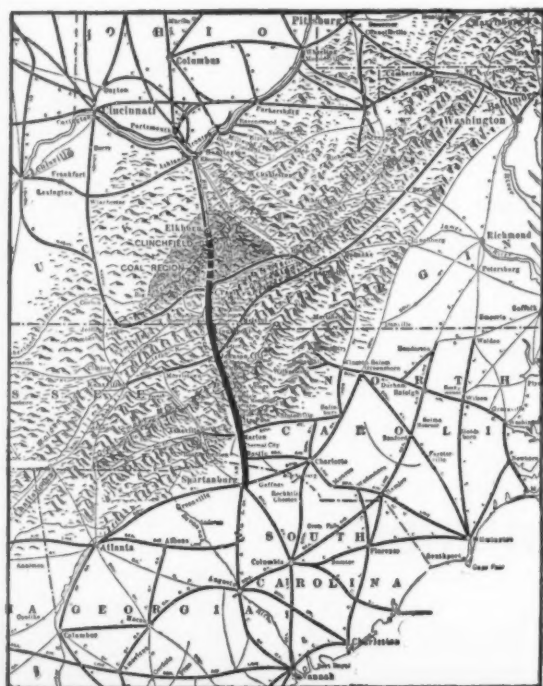
Have you realized that throughout that territory east of the Mississippi River this is the most important region, possessing a wide variety of raw materials and fine agricultural and timber lands still practically in a virgin state?

Have you appreciated the fact that this territory has a great beehive of industry to the West, a vast consuming area to the North, a splendid outlet to the markets of the world to the East, and a continually expanding industrial country to the South?

Do you know that the Clinchfield extends through the very heart of this region, running from Dante in Southwest Virginia through Eastern Tennessee and Western North Carolina to Spartanburg, S. C., and connects with the Louisville & Nashville, Norfolk & Western, Southern and Seaboard Air Line railways, reaching North, East, South and West?

With these facts in mind, do you not grasp the strategic position possessed by this territory for reaching the country's large consuming markets?

Combine this splendid location with an abundant supply of coal, water-powers, diversified mineral deposits, virgin hardwood timber tracts, and other raw materials, white labor, an ideal climate, and ample railroad facilities, and where can be found a section that offers greater opportunities to the investor, the manufacturer, the farmer and the home-seeker?



*Our booklet, "The Land of Opportunities," will give you some idea of the richness of this newly opened country. Send for a copy.*

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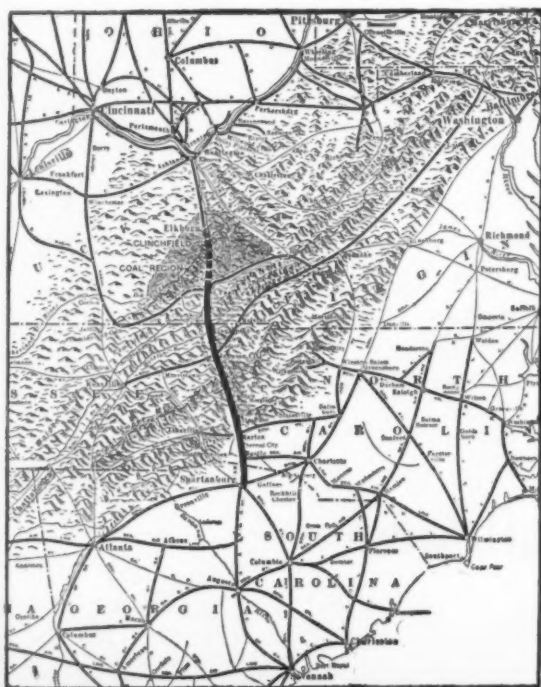
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Kelly Motor Truck Co., Springfield, O.  
Schuchat Motor Car Co., Cincinnati, O.
- Axles. (See Car Wheels, Axles and Trucks.)**
- Babbitt Metal. (See Anti-Friction Metal.)**
- Badges. (Hat and Breast, Electric and Steam Road, Police and Fire Dept.)**  
American Railway Supply Co., New York, N. Y.
- Bakers' Machinery.**  
Lynn Superior Co., The, Cincinnati, O.
- Bankers and Brokers.**  
Baltimore Trust Co., Baltimore, Md.  
Delaware Trust Co., Wilmington, Del.  
Electric Bond & Share Co., New York.  
Florida Trust Co., Jacksonville, Fla.  
Glenn, W. S., Spartanburg, S. C.  
Guaranty State Bank & Trust Co., Dallas, Tex.  
Halsey & Co., N. W., New York, N. Y.  
Lisman & Co., F. J., New York, N. Y.  
Mercantile Trust & Deposit Co., Baltimore, Md.  
New First National Bank, Columbus, O.  
Naveen & Co., John, Chicago, Ill.  
Savannah Bank & Trust Co., Savannah, Ga.  
Short & Son, John C., New York, N. Y.  
Southern States Development Co., New York, N. Y.  
Violet & Co., Atwood, New York, N. Y.
- Banks.**  
First National Bank, Baltimore, Md.  
First Nat'l Bank of Key West, Key West, Fla.  
First National Bank, Richmond, Va.  
Guaranty State Bank & Trust Co., Dallas, Tex.  
Merchants National Bank, Baltimore, Md.  
New First National Bank, Columbus, O.  
National Exchange Bank, Baltimore, Md.  
Savannah Bank & Trust Co., Savannah, Ga.
- Bank and Office Railings and Grilles. (Iron.)**  
Bolles Iron & Wire Works, J. E., Detroit, Mich.  
Buckeye Wire & Iron Works, Columbus, O.  
Chattanooga Iron & Wire Wks., Chattanooga, Tenn.  
Chesapeake Iron Works, Baltimore, Md.  
Cincinnati Mfg. Co., Cincinnati, O.  
Dow Wire Works, Louisville, Ky.  
Dufur & Co., Baltimore, Md.  
Dufur, Baggett & Co., Baltimore, Md.  
Jones & Co., L. E., Baltimore, Md.  
Meyers Mfg. Co., F. J., Hamilton, O.  
Ohio Elevator & Machine Co., The, Columbus, O.
- Bank Fixtures.**  
Ruse & Thompson, Baltimore, Md.
- Bar Iron. (Refined and Galvanized.)**  
Carnegie Steel Co., Pittsburgh, Pa.  
Nictown Plate Washer Co., Philadelphia, Pa.
- Bars, Wire, Wire Fabric, etc. (Steel for Concrete-Steel Construction.)**  
American Steel & Wire Co., Chicago, Ill.  
Cincinnati Iron & Steel Co., Cincinnati, O.  
Concrete-Steel Co., The, New York, N. Y.
- Concrete Steel Engineering Co., New York, N. Y.**  
Franklin Steel Co., Franklin, Pa.  
Hoffman & Co., B. C., Baltimore, Md.  
Jones & Laughlin Steel Co., Pittsburg, Pa.  
Wight & Co., W. N., New York, N. Y.
- Bearings. (Ball.)**  
Bretz Co., J. S., New York, N. Y.  
Hyatt Roller Bearing Co., Newark, N. J.  
Standard Roller Bearing Co., Philadelphia, Pa.
- Bearings. (Brass Journal.)**  
Gilbert & Sons Brass Fdry. Co., A., St. Louis, Mo.
- Bearings. (Locomotive and Car.)**  
Keystone Bronze Co., Pittsburg, Pa.
- Bearings. (Oilless.)**  
North Amer. Metaline Co., Long Island City, N. Y.
- Bearings. (Roller.)**  
Hyatt Roller Bearing Co., Newark, N. J.  
Standard Roller Bearing Co., Philadelphia, Pa.
- Bells. (Cast.)**  
Holtzer-Cabot Electric Co., Boston, Mass.
- Bells and Gongs.**  
National Tube Co., Pittsburg, Pa.  
Western Electric Co., New York, N. Y.
- Belting. (Leather, Canvas, Rubber.)**  
American Supply Co., Providence, R. I.  
Bailey-Leiby Co., Charleston, S. C.  
Baltimore Belting Co., Baltimore, Md.  
Cameron & Barkley Co., Charleston, S. C.  
Chesapeake Belting Co., Baltimore, Md.  
Diamond Rubber Co., Akron, O.  
Druid Oak Belting Co., Inc., The, Baltimore, Md.  
Gandy Belting Co., Baltimore, Md.  
Ladew, Estate Edward, Glen Cove, N. Y.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Rosendale-Hedaway B. & H. Co., Newark, N. J.  
Ward-Beeke Co., Washington, D. C.  
Williams & Sons, L. B., Dover, N. H.
- Belted. (Chain.)**  
Bartlett & Snow Co., C. O., Cleveland, O.  
Childwell & Sons Co., H. W., Chicago, Ill.  
Jeffrey Mfg. Co., Columbus, O.  
Link-Belt Co., (See Fireplaces, Artistic.)  
Morse Chain Co., Itasca, N. Y.
- Belt Conveyors.**  
Jeffrey Mfg. Co., Columbus, O.  
Robins Conveying Belt Co., New York, N. Y.
- Belt Dressing.**  
Diamond Rubber Co., Akron, O.  
Gandy Belting Co., Baltimore, Md.  
Ladew, Estate Edward, Glen Cove, N. Y.
- Belt Fasteners.**  
Crescent Belt Fastener Co., New York, N. Y.
- Belt Lacing. (See Belting, Leather, Canvas, Rubber, and Supplies.)**
- Bicarbonate Soda. (Sap Stain Lumber Dip.)**  
Church & Dwight Co., New York, N. Y.
- Blackboards. (Slate.)**  
East Bangor Con. Slate Co., The, East Bangor, Pa.  
Hower, J. E., Shilington, Pa.  
Johnson, E. J., New York, N. Y.
- Block Tackle. (For Wire or Manila Rope.)**  
Patterson Co., W. W., Pittsburg, Pa.
- Blowers and Exhaust Fans.**  
American Blower Co., Detroit, Mich.  
Buffalo Forge Co., Buffalo, N. Y.  
Clark Co., Geo. F., Windsor Locks, Conn.  
De Laval Steam Turbine Co., Trenton, N. J.  
Gardner City Fan Co., Chicago, Ill.  
General Electric Co., Schenectady, N. Y.  
Green Fuel Economizer Co., Mattawana, N. Y.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Savannah Blow Pipe Co., Savannah, Ga.  
Skinner Bros., St. Louis, Mo.  
Standard Blower & Steel Mfg. Co., Atlanta, Ga.  
Sturtevant Co., B. F., Hyde Park, Mass.
- Blueprint Apparatus.**  
Keuffel & Esser, Hoboken, N. J.
- Boilers.**  
Abendboth & Root Mfg. Co., Newburgh, N. Y.  
Ames Iron Works, Oswego, N. Y.  
Balchick & Wilson Co., New York, N. Y.  
Browell Co., Dayton, O.  
Cameron & Barkley Co., Charleston, S. C.  
Casey-Hedges Co., Chattanooga, Tenn.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago House Wrecking Co., Chicago, Ill.  
Cole Mfg. Co., H. D., Newark, Ga.  
Casper Co., C. & G., Mt. Vernon, O.  
Gem City Boiler Co., Dayton, O.  
Gibbs Machinery Co., Columbus, S. C.  
Harley Boiler Works, Montgomery, Ala.  
Heine Safety Boiler Co., St. Louis, Mo.  
Keeler Co., E., Williamsport, Pa.  
Lokout Boiler & Mfg. Co., Chattanooga, Tenn.  
Lombard Iron Works, Augusta, Ga.  
Mecklenburg Iron Works, Charlotte, N. C.  
Morris Iron Works Co., Burlington, Ia.  
Petroleum Iron Works Co., Sharon, Pa.  
Price Machinery Co., S. M., Norfolk, Va.  
Schiffeld & Sons Co., J. S., Macon, Ga.  
Smith-Courtney Co., Richmond, Va.  
Southern Engine & Steel Mfg. Co., Jackson, Tenn.  
Union Iron Works Co., Selma, Ala.  
Valk & Murdock Iron Works, Charleston, S. C.  
Vogt Machine Co., Henry, Louisville, Ky.  
Walsh & Weldner Boiler Co., Chattanooga, Tenn.
- Boiler Setting.**  
Harbison-Walker Refractories Co., Pittsburg, Pa.
- Boiler Tubes. (See Tubes, Boiler.)**
- Bolts, Nuts, Rivets, Studs and Washers.**  
Lebanon Valley Iron & Steel Co., Lebanon, Pa.  
Milton Mfg. Co., Milton, Pa.  
Nictown Plate Washer Co., Philadelphia, Pa.  
Republic Iron & Steel Co., Youngstown, O.  
Russell, Burdell & Ward Bolt & Nut Co., Port Chester, N. Y.
- Bonds. (Surety, etc.)**  
Fidelity & Deposit Co., Baltimore, Md.
- Boring. (Cylinder.)**  
Strickland Machine Co., Richmond, Va.
- Bottling Outfits.**  
Vilter Mfg. Co., Milwaukee, Wis.
- Box Shooks.**  
Naylor & Co., S. E., Gulfport, Miss.
- Brass Goods.**  
Bailey-Leiby Co., Charleston, S. C.  
Buckeye Iron & Brass Works, Dayton, O.  
Powell Co., Wm., Cincinnati, O.
- Brazings. (Cast Iron.)**  
Richmond Machine Works, Inc., Richmond, Va.  
Strickland Machine Co., Richmond, Va.
- Brass Railings and Grilles, etc.**  
McKenna Bros. Brass Co., Pittsburgh, Pa.
- Brewers' Machinery.**  
Vilter Mfg. Co., Milwaukee, Wis.
- Brick. (Building.)**  
Am. Enamelled Brick & Tile Co., New York, N. Y.  
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Mass.
- Carolina Portland Cement Co., Charleston, S. C.**  
Flake & Co., Inc., New York, N. Y.  
Hood, B. M., Atlanta, Ga.  
Hydraulic Press Brick Co., St. Louis, Mo.  
Oconee Brick & Tile Co., Milledgeville, Ga.  
Pittsburgh-Buffalo Co., Pittsburg, Pa.  
Sibley-Meigs Brick & Coal Co., Birmingham, Ala.
- Brick. (Blast Furnace, Coke Oven.)**  
Ashland Fire Brick Co., Ashland, Ky.  
Hood, B. M., Atlanta, Ga.
- Brick. (Enamelled.)**  
Amer. Enam. Brick & Tile Co., New York, N. Y.
- Brick. (Fire Clay.)**  
Ashland Fire Brick Co., Ashland, Ky.  
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Mass.
- Brick. (Magnesia.)**  
Harbison-Walker Refractories Co., Pittsburg, Pa.
- Brick. (Paving.)**  
Carlyle Paving Brick Co., Portsmouth, O.  
Copeland-Ingles Shale Brick Co., Birmingham, Ala.
- Brick. (Silica.)**  
Harbison-Walker Refractories Co., Pittsburg, Pa.
- Brick and Clayworking Machinery and Supplies.**  
American Clay Machinery Co., The, Bucyrus, O.  
Carnell, George, Philadelphia, Pa.  
Fennell Brick Machinery Co., St. Louis, Mo.  
Freese & Co., E. M., Gallon, O.  
Gibbs Machinery Co., Columbus, S. C.  
Scott-Madden Iron Works, Keokuk, Iowa.  
Steele & Sons, J. C., Stateville, N. C.  
Taplin-Rice-Clerkin Co., Akron, O.
- Brick Fireplaces. (See Fireplaces, Artistic.)**
- Brick Machinery. (Sand Lime.) (See Sand-Lime Brick Machinery.)**
- Brickwork. (Artistic.)**  
Flake & Co., Inc., New York, N. Y.
- Bridges. (Concrete.)**  
Concrete Steel Engineering Co., New York, N. Y.  
Roanoke Bridge Co., Roanoke, Va.
- Bridges. (Rolling Lift.)**  
Schierer Rolling Lift Bridge Co., Chicago, Ill.
- Bridges.**  
American Bridge Co. of New York, New York, N. Y.  
Baltimore Bridge Co., Baltimore, Md.  
Belmont Iron Works, Philadelphia, Pa.  
Chicago Bridge & Iron Wks., Chicago, Ill.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
Farris Bridge Co., Pittsburg, Pa.  
Missouri Val. Bridge & Iron Co., Leavenworth, Kan.  
Rine-Conley Mfg. Co., Pittsburg, Pa.  
Roanoke Bridge Co., Roanoke, Va.  
Schierer Rolling Lift Bridge Co., Chicago, Ill.  
Vincennes Bridge Co., Vincennes, Ind.  
Virginia Bridge & Iron Co., Roanoke, Va.  
York Bridge Co., York, Pa.
- Bridge and Structural Iron Paints.**  
Carolina Portland Cement Co., Charleston, S. C.  
Chattanooga Paint Co., Chattanooga, Tenn.  
Detroit Graphite Co., Detroit, Mich.  
Dixie Crucible Co., Jersey City, N. J.  
Standard Paint Co., New York, N. Y.
- Brimstone.**  
Union Sulphur Co., New York, N. Y.
- Briquetting Machinery. (Coal, Lignite, Ore.)**  
Devillers, Robert, Brooklyn, N. Y.
- Buckets. (Excavators.)**  
Browning Mfg. Co., Mansfield, O.  
Hayward Co., New York, N. Y.  
Mouginian Mch. Co., Chicago, Ill.  
Owen Bucket Co., Cleveland, O.  
Williams Co., The, G. H., Cleveland, O.
- Buckets. (Ore, etc.)**  
Brown Holsting Mch. Co., Cleveland, O.  
Browning Mfg. Co., Mansfield, O.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Dodge Manufacturing Co., Mishawaka, Ind.  
Hayward Co., New York, N. Y.  
Link-Belt Co., Nictown (Philadelphia), Pa.  
Owen Bucket Co., Cleveland, O.  
Smith Co., T. L., Atlanta, Ga.  
Williams Co., The, G. H., Cleveland, O.
- Buhr Stones.**  
Starr Co., B. F., Baltimore, Md.
- Builders and Contractors.**  
Falls City Construction Co., Louisville, Ky.  
Farris Bridge Co., Pittsburg, Pa.  
Ferro Concrete Construction Co., Cincinnati, O.  
Selden-Breck Construction Co., St. Louis, Mo.  
White & Co., J. G., New York, N. Y.
- Buildings. (Financed and Erected.)**  
Falls City Construction Co., Louisville, Ky.  
Gulf Coast Construction Co., Houston, Tex.
- Building Supplies.**  
Armistead Mfg. Co., Richmond, Va.  
Carolina Portland Cement Co., Charleston, S. C.  
Chicago House Wrecking Co., Chicago, Ill.  
Southeastern Lime & Cement Co., Charleston, S. C.  
Southern Building Material Co., Norfolk, Va.
- Burlap—Inserted Roofing and Siding. (Flex-Rite Cement.)**  
Birmingham & Seaman Co., Chicago, Ill.
- Burners. (Oil.) (See Fuel Oil Equipments.)**
- Bushings. (Oilless, for Loose Pulleys.)**  
North Amer. Metaline Co., Long Island City, N. Y.
- Cables.**  
American Steel & Wire Co., Chicago, Ill.  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Roebbling's Sons Co., John A., Trenton, N. J.  
Williamsport Wire Rope Co., Williamsport, Pa.
- Cableways. (Overhead Suspension.)**  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Consolidated Tramway Co., Roanoke, Va.  
Flory Mfg. Co., S. Bangor, Pa.  
Lidgerwood Mfg. Co., New York, N. Y.  
Mead-Morrison Mfg. Co., Cambridgeport, Mass.  
Roebbling's Sons Co., John A., Trenton, N. J.
- Can and Box Making Machinery. (Tin.)**  
Bliss Co., E. W., Brooklyn, N. Y.
- Cans.**  
New Orleans Rfg. & Metal Wks., New Orleans, La.  
Southern Can Co., Baltimore, Md.
- Canning Machinery and Supplies.**  
Robbins & Packers' Supply Co., Baltimore, Md.  
Cann & Co., A. R., Baltimore, Md.  
Schnaier-Scott Co., Baltimore, Md.  
Sprague Canning Machinery Co., Chicago, Ill.
- Carborundum Paper and Cloth.**  
Carborundum Co., Niagara Falls, N. Y.
- Card Clothing.**  
American Supply Co., Providence, R. I.
- Cars. (Dump, Industrial Logging and Mine.)**  
Austin Mfg. Co., Chicago, Ill.  
Baldwin Equipment & Supply Co., Chicago, Ill.  
Chase Fdry. & Mfg. Co., Columbus, O.  
Georgia Car & Locomotive Co., Atlanta, Ga.  
Hunt Co., C. W., West New Brighton, N. Y.  
Mules Co., The, Cincinnati, O.  
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.  
Raleigh Iron Works Co., Raleigh, N. C.  
Smith Co., T. L., Atlanta, Ga.  
Union Iron Works, Selma, Ala.
- Cars. (Passenger and Freight.) (See Railroad Equipment and Supplies.)**
- Car Couplers and Knuckles.**  
Safety Car H'g & L'g't'g Co., New York, N. Y.
- Car Lighting and Heating.**  
Safety Car H'g & L'g't'g Co., New York, N. Y.
- Car Steps. (Extension.)**  
Blake Car Step Works, Charlotte, N. C.
- Car Wheels, Axles and Trucks.**  
Carnegie Steel Co., Pittsburgh, Pa.  
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.  
Union Iron Works, Selma, Ala.
- Casters.**  
Clark Co., Geo. P., Windsor Locks, Conn.
- Castings. (Aluminum.)**  
Aluminum Company of America, Pittsburgh, Pa.  
Norwalk Brass Co., Norwalk, Conn.
- Castings. (Brass and Bronze.)**  
Gilbert & Sons Brass Fdry. Co., A., St. Louis, Mo.  
Keystone Bronze Co., Pittsburgh, Pa.  
Norwalk Brass Co., Norwalk, Conn.  
Phosphor-Bronze Smelting Co., Phila., Pa.  
Richmond Machine Works, Inc., Richmond, Va.  
Scranton & Bragg Co., Petersburg, Va.  
Triumph Electric Co., Cincinnati, Ohio.
- Castings. (Iron, Gray, etc.)**  
Columbian Iron Works, Chattanooga, Tenn.  
Gibbs Machinery Co., Chattanooga, S. C.  
Georgia Car & Locomotive Co., Atlanta, Ga.  
Chattanooga Pipe & Foundry Co., Lynchburg, Va.  
McWane Pipe Works, Lynchburg, Va.  
Pond Engineering & Machine Co., Baltimore, Md.  
Roanoke Iron Works, Inc., Roanoke, Va.  
Robins Conveying Belt Co., New York, N. Y.  
Ross-Meehan Foundry Co., Chattanooga, Tenn.  
Stratton & Bragg Co., Petersburg, Va.  
U. S. Cast Iron Pipe & Fdy. Co., New York, N. Y.  
Valk & Murdock Iron Works, Charleston, S. C.  
Westhollow Elevator Co., Danville, Va.
- Castings. (Malleable Iron and Steel.)**  
Missouri Malleable Iron Co., East St. Louis, Ill.
- Castings. (Steel.)**  
Crescent Steel Castings Co., Lansdowne, Pa.  
Hoffman & Co., R. C., Baltimore, Md.  
Reliance Steel Casting Co., Pittsburgh, Pa.  
Riverside Steel Casting Co., Newark, N. J.
- Ceilings. (Metal.)**  
Chattanooga Rfg. & Fdry. Co., Chattanooga, Tenn.  
Edwards Manufacturing Co., Cincinnati, O.  
Harris Steel Co., O. K., St. Louis, Mo.  
Kendley Metal Coil & Mfg. Co., S. Pittsburgh, Pa.  
Milwaukee Corrugating Co., Milwaukee, Wis.
- Cement.**  
Alpine Portland Cement Co., Easton, Pa.  
American Cement Co., Philadelphia, Pa.  
Carolina Portland Cement Co., Charleston, S. C.  
Chattanooga Portland Cement Co., Kingsport, Tenn.  
Dixie Portland Cement Co., Chattanooga, Tenn.  
Harristown Cement Co., Wm. G., Philadelphia, Pa.  
Ironport Portland Cement Co., Ironport, O.  
Kirkpatrick Sand & Cement Co., Birmingham, Ala.  
Kosmos Portland Cement Co., Louisville, Ky.  
Leitch Portland Cement Co., Allentown, Pa.  
Security Cement & Lime Co., Baltimore, Md.  
Southeastern Lime & Cement Co., Charleston, S. C.  
Southern States Portland Cement Co., Rockmart, Ga.  
Standard Portland Cement Co., Leeds, Ala.  
Tidewater Portland Cement Co., Baltimore, Md.
- Cement. (Liquids.)**  
Gibbs Vanish Co., Cleveland, O.
- Cement Machinery.**  
Aising Engineering Co., J. R., New York, N. Y.  
Power & Mining Machinery Co., Cadiz, Wis.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
- Chain Blocks.**  
Ford Chain Block & Mfg. Co., Philadelphia, Pa.
- Chains. (Dredge, Quarry, Steam Shovel.)**  
Weiner Chain & Iron Co., Lebanon, Pa.
- Channellers.**  
Ingersoll-Rand Co., New York, N. Y.
- Checks, Metal. (Factory, Time and Merchandise.)**  
American Railway Supply Co., New York, N. Y.
- Chemical and Drug Machinery.**  
Campbell, F. F., Philadelphia, Pa.
- Chemists.**  
Burn, Harry, Birmingham, Ala.  
Davis, Geo. C., Painesville, Pa.  
Froehling & Robertson, Richmond, Va.  
McKenna, Dr. Chas. F., New York, N. Y.
- Chimneys. (Steel-Concrete.)**  
Specialty Eng. Co., Houston, Tex.  
Weber Chimney Co., Chicago, Ill.
- Chloride Accumulator.**  
Electric Storage Battery Co., The, Phila., Pa.
- Chucks.**  
Morse Twist Drill & Mch. Co., New Bedford, Mass.
- Cities and Towns—Commercial and Industrial Opportunities. (See Industrial, Agricultural and Commercial Opportunities.)**
- Clayworking Machinery. (See Brick and Clayworking Machinery.)**
- Cleansing Compound. (Floors, etc.)**  
India Alkali Works, Boston, Mass.
- Clocks. (Electro Self-Winding.)**  
Electro-Clock Co., Baltimore, Md.
- Clocks. (Watchman.)**  
Holtzer-Cabot Electric Co., Boston, Mass.
- Clutches.**  
Dodge Manufacturing Co., Mishawaka, Ind.  
Positive Clutch & Pulley Works, Buffalo, N. Y.
- Coal.**  
Alabama Coal & Iron Co., Birmingham, Ala.  
Cincinnati Coal Corp., Spartanburg, S. C.  
Cincinnati Fuel Co., Spartanburg, S. C.  
Consolidated Coal Co., Inc., New York, N. Y.  
Flat Top Fuel Co., Bluefield, W. Va.  
Pittsburgh-Buffalo Co., Pittsburgh, Pa.  
Tennessee Coal, Iron & R. R. Co., B'm'gh'm, Ala.
- Coal Briquetting Machinery.**  
Devillers, Robert, Brooklyn, N. Y.

## Coal Cutters.

Ingersoll-Rand Co., New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
McKinnon-Terry Drill Co., New York, N. Y.

## Coal Handling Machinery.

Bartlett & Snow Co., C. O., Cleveland, O.  
Brown Hoisting Mch. Co., Cleveland, O.  
Hayward Co., New York, N. Y.  
Hunt Co., C. W., West New Brighton, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Link-Belt Co., Nictown (Philadelphia), Pa.  
Mead-Morrison Mfg. Co., Cambridgeport, Mass.  
Robins Conveying Belt Co., New York, N. Y.  
Williams Co., The G. H., Cleveland, O.

## Coal Tar and By-Products.

Barrett Mfg. Co., Philadelphia, Pa.  
Carolina Portland Cement Co., Charleston, S. C.

## Coke.

Alabama Coal & Iron Co., Birmingham, Ala.  
Flat Top Fuel Co., Bluefield, W. Va.  
Pittsburgh-Buffalo Co., Pittsburgh, Pa.  
Rogers, Brown & Co., Cincinnati, O.  
Tennessee Coal, Iron & R. R. Co., B'gh'm, Ala.

## Collapsible Steel Forms. (For Concrete Work.)

Concrete Form & Engine Co., Detroit, Mich.

## Concrete Construction. (Steel Reinforcement.)

American Steel & Wire Co., Chicago, Ill.  
Brown Hoisting Machinery Co., Cleveland, O.  
Concrete-Steel Co., The, New York, N. Y.  
Concrete Steel Engineering Co., New York, N. Y.  
Foster Concrete Construction Co., Cincinnati, O.  
Foster-Craigton-Gould Co., Nashville, Tenn.  
Jeffrey Mfg. Co., Columbus, O.  
Reichert Mfg. Co., Milwaukee, Wis.  
Specialty Eng. Co., Houston, Tex.  
Wight & Co., W. N., New York, N. Y.

## Concrete Curb Protection. (Steel.)

Steel Protected Concrete Co., Philadelphia, Pa.

## Concrete Dams.

Ambursen Hydraulic Const. Co., Boston, Mass.  
Hydraulic Properties Co., New York, N. Y.

## Concrete Floor Dressing. (Waterproof.)

Glidden Varnish Co., Cleveland, O.

## Concrete Forms. (Metal.)

Reichert Mfg. Co., Milwaukee, Wis.

## Concrete Forms. (Steel Collapsible.)

Concrete Form & Engine Co., Detroit, Mich.

## Concrete Mixers.

Carolina Portland Cement Co., Charleston, S. C.  
Eureka Machine Co., Lansing, Mich.  
Jeffrey Mfg. Co., Columbus, O.  
Marsh-Capron Mfg. Co., Chicago, Ill.  
Milwaukee Concrete Mixer & Mch. Co., Milwaukee, Wis.  
Smith Co., T. L., Atlanta, Ga.  
Standard Scale & Supply Co., Pittsburgh, Pa.  
Waterloo Cement Mch. Co., Waterloo, Iowa.

## Concrete Reinforcing Bars.

Carnegie Steel Co., Pittsburgh, Pa.  
Concrete-Steel Co., The, New York, N. Y.  
Concrete Steel Engineering Co., New York, N. Y.  
Franklin Steel Co., Franklin, Pa.

## Concrete Ties.

Universal Concrete Tie Co., New Orleans, La.

## Condensers.

Alberger Condenser Co., New York, N. Y.  
Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
Westinghouse Machine Co., Pittsburgh, Pa.  
Yorker Condenser & Eng. Co., New York, N. Y.  
York Mfg. Co., York, Pa.

## Conductor Pipe.

Edwards Mfg. Co., Cincinnati, O.  
Hussey & Co., C. G., Pittsburgh, Pa.  
Milwaukee Corrugating Co., Milwaukee, Wis.

## Contractors' Machinery and Supplies. (See also Hoisting Machinery.)

American Hoist & Derrick Co., St. Paul, Minn.  
American Locomotive Co., New York, N. Y.  
Austin Mfg. Co., Chicago, Ill.  
Case Threshing Mch. Co., J. I., Racine, Wis.  
Clyde Iron Works, Duluth, Minn.  
Contractors' Plant Mfg. Co., Ltd., Buffalo, N. Y.  
Ester Machine Works, Pittsford, Pa.  
Flory Mfg. Co., S., Bangor, Pa.  
Hyde Bros. & Co., New York, N. Y.  
Ingersoll-Rand Co., New York, N. Y.  
Linton, W. J., New York, N. Y.  
Males Co., The, Cincinnati, O.  
Marine Metal & Supply Co., New York, N. Y.  
Maryland Equip't & Supply Co., Baltimore, Md.  
Mead-Morrison Mfg. Co., Cambridgeport, Mass.  
Monaghan Mch. Co., Chicago, Ill.  
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.  
Owen Bucket Co., Cleveland, O.  
Pickett Co., Inc., H. W., Philadelphia, Pa.  
Robins Conveying Belt Co., New York, N. Y.  
Smith Co., T. L., Atlanta, Ga.  
Williamson Bros. Co., Philadelphia, Pa.

## Conveying Machinery.

Bartlett & Snow Co., C. O., Cleveland, O.  
Brown Hoisting Mch. Co., Cleveland, O.  
Caldwell & Son, Chicago, Ill.  
Consolidated Tramway Co., Roanoke, Va.  
Dodge Manufacturing Co., Mishawaka, Ind.  
Flory Mfg. Co., S., Bangor, Pa.  
Hayward Co., New York, N. Y.  
Hunt Co., C. W., West New Brighton, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Lidgerswood Mfg. Co., New York, N. Y.  
Link-Belt Co., Nictown (Philadelphia), Pa.  
Mead-Morrison Mfg. Co., Cambridgeport, Mass.  
McLannan-Stone Mch. Co., Hollidaysburg, Pa.  
Robins Conveying Belt Co., New York, N. Y.

## Cooling Towers.

Alberger Condenser Co., New York, N. Y.  
Wheeler Condenser & Eng. Co., New York, N. Y.

## Cordage.

American Mfg. Co., New York, N. Y.  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Columbian Rope Co., Auburn, N. Y.  
Plymouth Cordage Co., North Plymouth, Mass.  
Turner Co., J. Spencer, New York, N. Y.  
Whitlock Cordage Co., New York, N. Y.

## Cordage Machinery.

Haskell-Dawes Machine Co., Boston, Mass.

## Corn-Mill Machinery.

Kordyke & Marmon Co., Indianapolis, Ind.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Star Co., R. F., Baltimore, Md.  
Wolf Co., Chambersburg, Pa.

## Cotton Duck.

Turner Co., J. Spencer, New York, N. Y.

## Cotton Oil and Products.

American Cotton Oil Co., New York, N. Y.

## Cotton Yarns. (Commission Merchants.)

Paulson, Linkroom & Co., New York, N. Y.

## Cotton-Gin Machinery.

Carter Cotton Gin Co., East Bridgewater, Mass.  
Cotton-Gin Co., Birmingham, Ala.  
Gibbs Machinery Co., Columbia, S. C.  
Van Winkle Gin & Machine Co., Atlanta, Ga.

## Cotton-Mill Machinery.

American Mach. & Mfg. Co., Charlotte, N. C.  
American Supply Co., Providence, R. I.  
Brayner Co., Hopedale, Mass.  
Kittson Machine Shop, Lowell, Mass.  
Lowell Machine Shop, Lowell, Mass.  
Mason Machine Works, Taunton, Mass.  
Saco-Petree Co., Newton Upper Falls, Mass.  
Whitlin Machine Works, Whitinsville, Mass.  
Whitinsville Spinning Ring Co., Whitinsville, Mass.

## Cotton-Mill Supplies.

American Supply Co., Providence, R. I.  
Whitinsville Spinning Ring Co., Whitinsville, Mass.

## Cottonseed-Oil Machinery.

Buckeye Iron & Brass Works, Dayton, O.  
Burruss Engineering Co., Atlanta, Ga.  
Callahan Co., W. P., The, Dayton, O.  
Cardwell Mfg. Co., Richmond, Va.  
Carver Cotton Gin Co., East Bridgewater, Mass.  
Continental Gin Co., Birmingham, Ala.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Van Winkle Gin & Machine Co., Atlanta, Ga.

## Couplings.

American Spiral Pipe Works, Chicago, Ill.  
Brown Co., A. & F., New York, N. Y.  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Dodge Manufacturing Co., Mishawaka, Ind.  
Golden Foundry & Machine Co., Columbus, Ga.  
Sinclair Scott Co., Baltimore, Md.  
Wood's Sons, T. B., Chambersburg, Pa.

## Couplings. (Car.)

Weimer Chain & Iron Co., Lebanon, Pa.

## Couplings. (Hose, Air, Gas, Steam and Water.)

National Tube Co., Pittsburg, Pa.

## Covering. (Pipe, Boiler, etc.)

Carolina Portland Cement Co., Charleston, S. C.  
Johns-Manville Co., H. W., New York, N. Y.  
Southern Pipe Covering Co., Inc., Richmond, Va.

## Cranes. (Locomotive.)

American Hoist & Derrick Co., St. Paul, Minn.  
Brown Hoisting Machinery Co., Cleveland, O.  
Hovenden Engineering Co., Cleveland, O.  
Kester Machine Works, Pittsford, Pa.  
Ohio Locomotive Crane Co., Bucyrus, Ohio.

## Cranes. (Traveling, Hand, Power, Hydraulic.)

Brown Hoisting Machinery Co., Cleveland, O.  
Hayward Co., New York, N. Y.  
Lane Mfg. Co., Montpelier, Vt.  
Northern Engineering Works, Detroit, Mich.  
Speldel, J. G., Reading, Pa.

## Crayons.

Lowell Crayon Co., Lowell, Mass.

## Crematories. (Garbage.)

Specialty Eng. Co., Houston, Tex.

## Crescote.

Carolina Portland Cement Co., Charleston, S. C.

## Crescote Oil.

Atlantic Turpentine & Refin'g Co., Savannah, Ga.

## Crescote Wood Block. (Contractors for Laying.)

Crescote Wood Block Pav. Co., New Orleans, La.

## Crescote Works.

Gulfport Crescote & Cons. Co., Galveston, Tex.  
Internal Crescote & Cons. Co., Galveston, Tex.  
National Lumber & Crescote Co., Texarkana, Ark.  
Southern Crescote Co., Ltd., Silsbee, La.  
Southern Wood Preserving Co., Atlanta, Ga.

## Crossarms and Pins.

Carolina Electrical Co., Raleigh, N. C.  
Internal Crescote & Cons. Co., Galveston, Tex.  
Southern Crescote Co., Ltd., Silsbee, La.  
Western Electric Co., New York, N. Y.

## Crossings. (See Railroad Frogs and Switches.)

## Crossing Machine.

Standard Cross Tie Mch. Co., New Orleans, La.

## Crossties.

Internal Crescote & Cons. Co., Galveston, Tex.  
National Lumber & Crescote Co., Texarkana, Ark.  
Naylor & Co., S. E., Gulfport, Miss.  
Southern Crescote Co., Ltd., Silsbee, La.  
Universal Concrete Tie Co., New Orleans, La.

## Crossties. (Reinforced Concrete.)

Universal Concrete Tie Co., New Orleans, La.

## Crossties. (Steel.)

Carnegie Steel Co., Pittsburgh, Pa.

## Crushers. (Corn and Cob.)

Gardner Crusher Co., New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Williams Pat. Crusher & Pulv. Co., Chicago, Ill.

## Crushers. (Rock.)

Austin Mfg. Co., Chicago, Ill.  
Case Threshing Mch. Co., J. I., Racine, Wis.  
Cresson Co., Geo. V., Philadelphia, Pa.  
Gardner Crusher Co., New York, N. Y.  
Lehigh Crusher Co., Ltd., Catasauqua, Pa.  
Power & Mining Machinery Co., Cudahy, Wis.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Smith Co., T. L., Atlanta, Ga.  
Universal Road Mch. Co., Kingston, N. Y.  
Waterloo Cement Mch. Co., Waterloo, Iowa.

## Crushing and Pulverizing Machinery.

Alding Engineering Co., J. R., New York, N. Y.  
Austin Mfg. Co., Chicago, Ill.  
Bartlett & Snow Co., C. O., Cleveland, O.  
Cresson Co., Geo. V., Philadelphia, Pa.  
Gardner Crusher Co., New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Lehigh Crusher Co., Ltd., Catasauqua, Pa.  
McLannan-Stone Mch. Co., Hollidaysburg, Pa.  
Power & Mining Machinery Co., Cudahy, Wis.  
Pratt Engineering & Mch. Co., Atlanta, Ga.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Walker & Elliott, Wilmington, Del.  
Williams Pat. Crusher & Pulv. Co., Chicago, Ill.

## Culverts. (Corrugated Metal.)

American Rolling Mill Co., Middletown, O.  
Canton Culvert Co., The, Canton, O.  
Dixie Culvert & Metal Co., Atlanta, Ga.  
Kentucky Culvert Mfg. Co., Buechel, Ky.  
New Orleans Rfg. & Metal Wks., New Orleans, La.  
North Carolina Metal Culv. Co., Greensboro, N. C.  
Roanoke Bridge Co., Roanoke, Va.  
Tennessee Metal Culvert Co., Nashville, Tenn.  
Virginia Metal Culvert Co., Roanoke, Va.

## Culverts. (Vitrified Pipe.)

Ribbs Sewer Pipe Co., Macon, Ga.  
Stevens Sons Co., H., Macon, Ga.

## Cupola Furnaces.

Northern Engineering Works, Detroit, Mich.  
Paxson Co., J. W., Philadelphia, Pa.  
Petroleum Iron Works Co., Sharon, Pa.

## Cuts. (Half-tone, Line, etc.)

Baltimore Maryland Engr. Co., Baltimore, Md.

## Cutter Heads. (Woodworking.)

Shlmer & Sons, Samuel J., Milton, Pa.

## Cutter Grinders.

Abrasive Material Co., Philadelphia, Pa.

## Vitrified Wheel Co., Westfield, Mass.

## Dams. (Reinforced Concrete.)

Ambursen Hydraulic Const. Co., Boston, Mass.  
Hydraulic Properties Co., New York, N. Y.

## Derricks and Derrick Fittings.

American Hoist & Derrick Co., St. Paul, Minn.  
Monaghan Machine Co., Chicago, Ill.  
National Hoisting Mch. Co., Harrison, N. J.  
Waterloo Cement Mch. Co., Waterloo, Iowa.

## Designers and Illustrators. (Printed Matter.)

Baltimore Maryland Engr. Co., Baltimore, Md.

## Die Makers. (Special.)

Black & Decker Mfg. Co., Baltimore, Md.

## Ditching Machinery.

American Hoist & Derrick Co., St. Paul, Minn.  
American Locomotive Co., New York, N. Y.  
American Steel Bridge Co., Ft. Wayne, Ind.  
Browning Mfg. Co., Mansfield, O.  
Fairbanks Steam Shovel Co., Marion, O.  
Hayward Co., The, New York, N. Y.  
Marion Steam Shovel Co., Marion, O.  
Monaghan Machine Co., Chicago, Ill.  
Owen Bucket Co., Cleveland, O.  
Williams Co., The G. H., Cleveland, O.

## Doors. (Birch Veneered.)

Carolina Portland Cement Co., Charleston, S. C.  
Massey & Felton Lumber Co., Macon, Ga.

## Doors. (Steel Rolling.)

Kinner Mfg. Co., Columbus, O.

## Doors. (Tin Clad.)

Victor Mfg. Co., Newburyport, Mass.

## Doors, Partitions. (Metallic.)

Dalstrom Metallic Door Co., Jamestown, N. Y.  
United States Metal Products Co., New York, N. Y.

## Doors, Sash and Blinds.

Columbus Iron Works Co., Columbus, Ga.  
Massey & Felton Lumber Co., Macon, Ga.

## Draftsmen's Supplies.

Keuffel & Esser, Hoboken, N. J.  
Weber & Co., F., Philadelphia, Pa.

## Dredge Chains.

Weimer Chain & Iron Co., Lebanon, Pa.

## Dredges. (See Excavating Machinery.)

## Drills. (Pneumatic.) (See also Drills, Rock and Mining.)

Drills. (Prospecting.)

Fort Wayne Electric Works, Fort Wayne, Ind.  
Ingersoll-Rand Co., New York, N. Y.  
Keystone Steam Well Mch. Co., Beaver Falls, Pa.  
McKinnon-Terry Drill Co., New York, N. Y.

## Drills. (Rock and Mining.)

Chicago Pneumatic Tool Co., Chicago, Ill.  
Fort Wayne Electric Works, Fort Wayne, Ind.  
Independent Pneumatic Tool Co., Chicago, Ill.  
Ingersoll-Rand Co., New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
McKinnon-Terry Drill Co., New York, N. Y.  
Wickes Bros., Jersey City, N. J.

## Drills. (Twist.)

Mauling, Maxwell & Moore, Inc., New York, N. Y.  
Morse Twist Drill & Mch. Co., New Bedford, Mass.

## Drive Well Points and Well Supplies.

National Tube Co., Pittsburg, Pa.

## Drop Forgings.

American Spiral Pipe Works, Chicago, Ill.  
Great Southern Automobile Co., Birmingham, Ala.  
Richmond Forgings Corporation, Richmond, Va.

## Drop Forging Machinery.

Bilas Co., E. W., Brooklyn, N. Y.

## Drying Machinery.

American Blower Co., Detroit, Mich.  
American Process Co., New York, N. Y.  
Bailey-Leiby Co., The, Charleston, S. C.  
Buffalo Forge Co., Buffalo, N. Y.  
Ruggles-Culver Engineering Co., New York, N. Y.  
Sturtevant Co., B. F., Hyde Park, Mass.

## Drykilns.

American Blower Co., Detroit, Mich.  
Buffalo Forge Co., Buffalo, N. Y.  
Union Iron Works Co., Selma, Ala.

## Dumbwaiters.

Hollister-Whitney Co., Quincy, Ill.  
Sidney Elevator & Mfg. Co., Sidney, O.  
Speldel, J. G., Reading, Pa.

## Dump Wagons and Wagon Boxes.

Case Threshing Mch. Co., J. I., Racine, Wis.  
Eagle Wagon Works, Auburn, N. Y.  
Troy Wagon Works Co., Troy, O.

## Dust-Collecting Systems.

Buffalo Forge Co., Buffalo, N. Y.  
Savannah Blow Pipe Co., Savannah, Ga.  
Skinner Bros., St. Louis, Mo.  
Smith-Rothman Co., New York, N. C.  
Standard Blower & Metal Mfg. Co., Atlanta, Ga.

## Dynamite.

du Pont de Nemours Powder Co., E. I., Wilmington, Del.

## Dynamos and Motors. (Steam Turbine.)

De Laval Steam Turbine Co., Trenton, N. J.  
Emerson Steam Pump Co., Alexandria, Va.  
Fort Wayne Electric Works, Ft. Wayne, Ind.  
General Electric Co., Schenectady, N. Y.  
Southwark Fdry. & Mch. Co., Philadelphia, Pa.  
Terry Steam Turbine Co., New York, N. Y.  
Western Electric Co., New York, N. Y.  
Westinghouse Elec. & Mfg. Co., Pittsburgh, Pa.

## Eaves. (Trough.)

Edwards Mfg. Co., Cincinnati, O.  
Hussey & Co., C. G., Pittsburgh, Pa.  
Milwaukee Corrugating Co., Milwaukee, Wis.

## Electric Machinery. (Dynamos, Generators, Motors, etc.)

Allis-Chalmers Co., Milwaukee, Wis.  
American Engine Co., Round Brook, N. J.  
American Machine Co., Louisville, Ky.  
Crockett-Wheeler Co., Amper, N. J.  
Doubleday Hill Electric Co., Pittsburg, Pa.  
Engel's Elect. & Mech. Works, St. Joseph, Mo.  
Fairbanks, Morse & Co., Chicago, Ill.  
Fort Wayne Electric Works, Ft. Wayne, Ind.  
General Electric Co., Schenectady, N. Y.  
Gregory Electric Co., Chicago, Ill.  
Kentucky Electrical Co., Owensboro, Ky.  
Lee Electric Co., Baltimore, Md.  
Miller-Owen Elec. Co., Pittsburgh, Pa.  
Piedmont Electric Co., Asheville, N. C.  
Ridgway Dynamo & Engine Co., Ridgway, Pa.  
Robins Conveying Belt Co., New York, N. Y.  
Robbins & Myers Co., Springfield, O.  
Southwark Fdry. & Mch. Co., Philadelphia, Pa.  
Sturtevant Co., B. F., Hyde Park, Mass.  
Triumph Electric Co., Cincinnati, O.  
Westinghouse Elec. & Mfg. Co., Pittsburgh, Pa.

## Electrical Contractors, Instruments and Supplies.

American Mach. & Mfg. Co., Charlotte, N. C.  
Crockett-Wheeler Co., Amper, N. J.

Doubleday Hill Electric Co., Pittsburg, Pa.  
Electrical Engineers' Equip. Co., Chicago, Ill.  
Engel's Elect. & Mech. Works, St. Joseph, Mo.  
Fort Wayne Electric Works, Ft. Wayne, Ind.  
General Electric Co., Schenectady, N. Y.  
Gregory Electric Co., Chicago, Ill.  
Johns-Manville Co., H. W., New York, N. Y.  
Kentucky Electrical Co., Owensboro, Ky.  
Lee Electric Co., Baltimore, Md.  
Levy, Deronda, Columbus, Ga.  
Piedmont Electric Co., Asheville, N. C.  
Robbins & Myers Co., Springfield, O.  
Westinghouse Elec. & Mfg. Co., Pittsburgh, Pa.

## Electrical Power-House Supplies.

Electrical Engineers' Equip. Co., Chicago, Ill.

## Electro Magnet. (See Magnet Electro.)

## Elevating, Conveying and Power Transmission Machinery. (See also Conveying Mch. and Power Transmission Mch.)

Jeffrey Mfg. Co., Columbus, O.

## Elevators.

Albro-Clem Elevator Co., Philadelphia, Pa.  
American Machine Co., Louisville, Ky.  
Curtis Elevator Co., James H., Cincinnati, O.  
Holler-Whitney Co., Quincy, Ill.  
Kansas City Elevator Mfg. Co., Charlotte, N. C.  
Moffatt Machinery Mfg. Co., Columbus, O.  
Ohio Elevator & Machine Co., Columbus, O.  
Otis Elevator Co.,



- Engines.**  
**GAS AND GASOLINE.**  
 Bogart Gas Power Eng. Co., Buffalo, N. Y.  
 Fairbanks, Morse & Co., Chicago, Ill.  
 Mielz, A., New York, N. Y.  
 Otto Gas Engine Works, Philadelphia, Pa.  
 Standard Gas Power Co., Atlanta, Ga.  
 Westinghouse Machine Co., The, Pittsburg, Pa.
- OIL.**  
 Corlinton Mch. Co., New York, N. Y.  
 Mielz, A., New York, N. Y.
- Engines. (Steam.)**  
 Allis-Chalmers Co., Milwaukee, Wis.  
 American Blower Co., Detroit, Mich.  
 American Engine Co., Bound Brook, N. J.  
 American Holst & Derrick Co., St. Paul, Minn.  
 Ames Iron Works, Oswego, N. Y.  
 Atlas Engine Works, Indianapolis, Ind.  
 Ball Engine Co., Erie, Pa.  
 Brownell Co., The, Dayton, O.  
 Buffalo Forge Co., Buffalo, N. Y.  
 Cameron & Barker Co., Charleston, S. C.  
 Chicago House Wrecking Co., Chicago, Ill.  
 Cooper Co., C. & G., Mt. Vernon, O.  
 Duke Engine Co., Grand Haven, Mich.  
 Engle's Elect. & Mech. Works, St. Joseph, Mo.  
 Gibbes Machinery Co., Columbia, S. C.  
 Greenwald Co., I. & E., Cincinnati, O.  
 Griffith & Wedge Co., The, Zanesville, O.  
 Harrisburg Fdry. & Mach. Wks., Harrisburg, Pa.  
 Hooven, Owen, Rentschler Co., Hamilton, O.  
 Houston, Stanwood & Gamble Co., Cincinnati, O.  
 Leffelt & Co., James, Springfield, O.  
 Lombard Iron Works, Augusta, Ga.  
 Meeklenburg Iron Works, Charlotte, N. C.  
 Morris Machine Works, Baldwinville, N. Y.  
 Murray Iron Works Co., Burlington, Ia.  
 Phoenix Iron Works Co., Meadville, Pa.  
 Price Machinery Co., S. M., Norfolk, Va.  
 Purser, J. R., Charlotte, N. C.  
 Ridgway Dynamo & Engine Co., Ridgway, Pa.  
 Schofield's Sons Co., J. S., Macon, Ga.  
 Smith-Courtney Co., Richmond, Va.  
 Southern Engine & Boiler Works, Jackson, Tenn.  
 Sturtevant Co., B. F., Hyde Park, Mass.  
 Union Iron Works Co., Selma, Ala.  
 Vilter Mfg. Co., Milwaukee, Wis.  
 Westinghouse Machine Co., Pittsburg, Pa.
- Engines. (Truck and Aeroplane.)**  
 Black & Decker Mfg. Co., Baltimore, Md.
- Envelopes.**  
 Young & Selden Co., Baltimore, Md.
- Excavating Machinery. (Steam Shovels, etc.)**  
 American Locomotive Co., New York, N. Y.  
 American Steel Dredge Co., Ft. Wayne, Ind.  
 Baldwin Equipment & Supply Co., Chicago, Ill.  
 Browning Mfg. Co., Mansfield, O.  
 Bucyrus Co., The, So. Milwaukee, Wis.  
 Cable Excavator Co., Philadelphia, Pa.  
 Fairbanks Steam Shovel Co., Marion, O.  
 Hayward Co., New York, N. Y.  
 Jeffrey Mfg. Co., Columbus, O.  
 Lidgerwood Mfg. Co., New York, N. Y.  
 Majors Co., Cincinnati, O.  
 Marion Steam Shovel Co., Marion, O.  
 Monaghan Machine Co., Chicago, Ill.  
 Owen Bucket Co., Cleveland, O.  
 Williams Co., The, H. H., Cleveland, O.
- Excelsior Machinery.**  
 Kline, Lewis T., Alpena, Mich.
- Exhaust Heads.**  
 Abendroth & Root Mfg. Co., Newburgh, N. Y.  
 American Spiral Pipe Works, Chicago, Ill.  
 Greenwald Co., I. & E., Cincinnati, O.  
 Hoppes Mfg. Co., Springfield, O.
- Exhibits. (Machinery Builders' Equipment and Supplies.)**  
 Bourne, The, Philadelphia, Pa.  
 Builders' Exchange, Baltimore, Md.
- Expansion Joints.**  
 Alberger Condenser Co., New York, N. Y.  
 Badger & Sons Co., E. B., Boston, Mass.
- Explosives.**  
 du Pont de Nemours Powder Co., E. I., Wilmington, Del.
- Extension Steps. (For Railroad Coaches.)**  
 Blake Car Step Works, Charlotte, N. C.
- Factory Sites. (Town and Railroad.)** [See Industrial, Agricultural and Commercial Opportunities.]
- Fans. (Electric.)**  
 Doubleday-Hill Electric Co., Pittsburg, Pa.  
 General Electric Co., Schenectady, N. Y.  
 Robbins & Myers Co., Springfield, O.  
 Western Electric Co., New York, N. Y.  
 Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.
- Fans. (Ventilating.)** [See Blowers, Exhaust Fans.]
- Fastener Driving Machine. (Corrugated Sheet.)**  
 Saranne Machine Co., St. Joseph, Mich.
- Feed-Water Heaters and Purifiers.**  
 Alberger Condenser Co., New York, N. Y.  
 American Water Softener Co., Philadelphia, Pa.  
 Blake & Knowles Steam Pump Works, New York, N. Y.  
 Brownell Co., Dayton, O.  
 Exeter Machine Works, Pittston, Pa.  
 Gibbes Machinery Co., Columbia, S. C.  
 Greenwald Co., I. & E., Cincinnati, O.  
 Hoppes Mfg. Co., Springfield, O.  
 McAldoo, Thomas, Philadelphia, Pa.  
 Murray Iron Works Co., Burlington, Ia.  
 National Pipe Bending Co., New Haven, Conn.  
 Seafie & Sons Co., Wm. B., Pittsburg, Pa.  
 Stewart Heater Co., Buffalo, N. Y.  
 Wilmington Iron Works, Wilmington, N. C.
- Feed-Water Heater and Purifier and Oil Separator Combined.**  
 Blake & Knowles Steam Pump Works, New York, N. Y.  
 Stewart Heater Co., Buffalo, N. Y.
- Felt. (Building, Sheathing.)**  
 Barrett Mfg. Co., Philadelphia, Pa.
- Fencing, Entrance Gates. (Iron, Steel, Wire.)**  
 American Steel & Wire Co., Chicago, Ill.  
 Bolles Iron & Wire Works, J. E., Detroit, Mich.  
 Dow Wire Works, Louisville, Ky.  
 Duff & Co., Baltimore, Md.  
 New Jersey Wire Cloth Co., Trenton, N. J.  
 Ohio Elevator & Mach. Co., The, Columbus, O.
- Fertilizer Machy. (See also Phosphate Machy.)**  
 Campbell, P. F., Philadelphia, Pa.  
 Pratt Eng. & Mch. Co., Atlanta, Ga.  
 Smith Co., T. L., Atlanta, Ga.  
 Valk & Mullock Iron Works, Charleston, S. C.  
 Walker & Elliott, Wilmington, Del.  
 Wilmington Iron Works, Wilmington, N. C.
- Files.**  
 Barnett Co., G. & H., Philadelphia, Pa.  
 Delta File Works, Philadelphia, Pa.  
 Nicholson File Co., Providence, R. I.
- Filters. (Water, for Domestic and Industrial Purposes.)**  
 American Water Softener Co., Philadelphia, Pa.  
 International Filter Co., Chicago, Ill.  
 Lynn-Superior Co., The, Cincinnati, O.  
 New York Con. Jewell Fil. Co., New York, N. Y.  
 Roberts Filter Mfg. Co., Philadelphia, Pa.  
 Seafie & Sons Co., Wm. B., Pittsburg, Pa.  
 Tucker & Laxton, Charlotte, N. C.
- Financial Publication.**  
 Financial Review, New York, N. Y.
- Fire Alarm Boxes.**  
 Balto. Mch. Products Co. (Relay Station P. O.), Baltimore, Md.
- Fire Clay Brick. [See Brick, Fire Clay.]**
- Fire Box Blocks.**  
 Ashland Fire Brick Co., Ashland, Ky.
- Fire Door Fixtures.**  
 Peters & Son, Jas., Philadelphia, Pa.  
 Vitor Mfg. Co., Newburyport, Mass.
- Fire Extinguishers.**  
 Badger & Sons Co., E. B., Boston, Mass.  
 General Fire Extinguisher Co., Providence, R. I.
- Fire Escapes.**  
 Bolles Iron & Wire Works, J. E., Detroit, Mich.  
 Chesapeake Iron Works, Baltimore, Md.
- Fire Insurance.**  
 Hartford Fire Insurance Co., Hartford, Conn.
- Fireplaces. (Artistic Brick.)**  
 Fliske & Co., Inc., New York, N. Y.
- Fireproof Building Construction. (Steel.)** [See Concrete Construction.]
- Fireproof Building Material.**  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Johns-Manville Co., H. W., New York, N. Y.
- Fireproof Doors and Shutters.**  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 Kinnear Mfg. Co., Columbus, O.  
 New Orleans Roof & Metal Co., New Orleans, La.  
 Richmond Safety Gate Co., Richmond, Ind.  
 United States Metal Products Co., New York, N. Y.  
 Vitor Mfg. Co., Newburyport, Mass.
- Fireproof Windows. [See Window Frames and Sashes (Fireproof).]**
- Fire Protection Hardware.**  
 Peters & Son, Jas., Philadelphia, Pa.
- Flanges. (Iron and Steel.)**  
 American Cast Iron Pipe Co., Birmingham, Ala.  
 American Pipe & Construction Co., Phila., Pa.  
 American Spiral Pipe Works, Chicago, Ill.  
 Cameron Steam Pump Wks., A. S., New York, N. Y.  
 Dart Manufacturing Co., E. M., Providence, R. I.  
 General Fire Extinguisher Co., Providence, R. I.  
 Glamorgan Pipe & Foundry Co., Lynchburg, Va.  
 McWane Pipe Works, Lynchburg, Va.  
 National Tube Co., Pittsburgh, Pa.  
 U. S. Cast Iron Pipe & Fdy. Co., New York, N. Y.  
 Whitlock Coil Pipe Co., Hartford, Conn.  
 Wood & Co., E. D., Philadelphia, Pa.
- Flexible Joints.**  
 Moran Flex. Steam Joint Co., Inc., Louisville, Ky.
- Flooring. (Cement.)**  
 Dagostin & Angelini Bros., Montgomery, Ala.
- Flooring. (Hardwood, Maple, Oak.)**  
 Carolina Portland Cement Co., Charleston, S. C.  
 Northcross Mantel Co., W. J., Memphis, Tenn.  
 Nashville Hardw'd Flooring Co., Nashville, Tenn.
- Flour and Grist Mill Machinery and Supplies.**  
 Caldwell & Sons Co., H. W., Chicago, Ill.  
 Gibbes Machinery Co., Columbia, S. C.  
 Nurdyke & Marmon Co., Indianapolis, Ind.  
 Salem Foundry & Machine Works, Salem, Va.  
 Starr Co., B. F., Baltimore, Md.  
 Ventch & Co., L. R., Louisville, Ky.  
 Wolf Co., Chambersburg, Pa.
- Flushtank Regulator.**  
 Modern Iron Works, Quincy, Ill.
- Flushtanks.**  
 Merritt & Co., Camden, N. J.
- Foot Valves.**  
 Cameron Steam Pump Wks., A. S., New York, N. Y.
- Forges.**  
 Buffalo Forge Co., Buffalo, N. Y.  
 Sturtevant Co., B. F., Hyde Park, Mass.
- Forgings.**  
 Great Southern Automobile Co., Birmingham, Ala.  
 Richmond Forgings Corporation, Richmond, Va.  
 Welmer Chain & Iron Co., Lebanon, Pa.
- Forms. (Steel Collapsible.)**  
 Concrete Form & Engine Co., Detroit, Mich.
- Foundations.**  
 Underground Constr. Co., The, St. Louis, Mo.
- Foundations. (Open or Pneumatic.)**  
 Missouri Val. Bridge & Iron Co., Leavenworth, Kan.
- Foundry Equipment and Supplies.**  
 Paxson Co., J. W., Philadelphia, Pa.
- Frogs. [See Railroad Frogs and Switches.]**
- Fuel Economizer.**  
 Green Fuel Economizer Co., Matteawan, N. Y.  
 Sturtevant Co., B. F., Hyde Park, Mass.
- Fuel Oil.**  
 Gulf Refining Co., Pittsburg, Pa.  
 Texas Co., The, New York, N. Y.
- Fuel Oil Equipment.**  
 Petroleum Iron Works Co., Sharon, Pa.
- Furnace Builders.**  
 Riter-Conley Mfg. Co., Pittsburg, Pa.
- Fuses, Bases and Fittings.**  
 Johns-Manville Co., H. W., New York, N. Y.
- Galvanized Steel and Iron.**  
 American Sheet & Tin Plate Co., Pittsburg, Pa.  
 J. C. H. Galvanizing Co., Philadelphia, Pa.  
 La Belle Iron Works, Steubenville, O.  
 McCalla, Harold, Philadelphia, Pa.  
 New Orleans Roof & Metal Co., New Orleans, La.  
 Wood Iron & Steel Co., Alan, Philadelphia, Pa.  
 Youngstown Sheet & Tube Co., Youngstown, O.
- Garages. (Fireproof and Portable.)**  
 Harry Steel Co., O. K., St. Louis, Mo.
- Gas Blowers. (Turbine.)**  
 Terry Steam Turbine Co., New York, N. Y.
- Gas Compressors.**  
 Ingersoll-Rand Co., New York, N. Y.
- Gas Engines. [See Engines, Gas.]**
- Gas Holders.**  
 Bartlett-Hayward Co., The, Baltimore, Md.  
 Chicago Bridge & Iron Wks., Chicago, Ill.
- Gas Machines.**  
 Economy Gas Mach. Co., Rochester, N. Y.
- Gas Plants.**  
 Western Gas Construction Co., Ft. Wayne, Ind.
- Gas Plants and Benches.**  
 Improved Equipment Co., New York, N. Y.
- Gas Plants. (Coal and Water.)**  
 Bartlett-Hayward Co., The, Baltimore, Md.
- Gas Producers.**  
 Bogart Gas Power Eng. Co., Buffalo, N. Y.  
 Improved Equipment Co., New York, N. Y.  
 Otto Gas Engine Works, Philadelphia, Pa.  
 Standard Gas Power Co., Atlanta, Ga.  
 Westinghouse Machine Co., Pittsburg, Pa.  
 Wood & Co., R. D., Philadelphia, Pa.
- Gasoline and Kerosene.**  
 Gulf Refining Co., Pittsburg, Pa.  
 Texas Co., The, New York, N. Y.
- Gas and Steam Fitters' Tools.**  
 Saunders' Sons, D., Yonkers, N. Y.
- Gaskets. (Rubber.)**  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.
- Gears.**  
 Albion-Clem Elevator Co., Philadelphia, Pa.  
 Brown Co., A. & F., New York, N. Y.  
 Caldwell & Sons Co., H. W., Louisville, Ky.  
 Caldwell & Son Co., H. W., Chicago, Ill.  
 Cresson Co., Geo. V., Philadelphia, Pa.  
 Dayton Globe Iron Works Co., Dayton, O.  
 Dodge Manufacturing Co., Mishawaka, Ind.  
 Earle Gear & Machine Co., The, Philadelphia, Pa.  
 Great Southern Automobile Co., Birmingham, Ala.  
 Jeffrey Mfg. Co., Columbus, O.  
 Poole Engineering & Machine Co., Baltimore, Md.  
 Positive Clutch & Pulley Works, Buffalo, N. Y.  
 Trump Mfg. Co., Springfield, O.
- Geologists.**  
 Clapp, Frederick C., Pittsburg, Pa.  
 Froehling & Robertson, Richmond, Va.
- Glass. (Plate, etc.)**  
 Hinswanger & Co., Memphis, Tenn.  
 Holophane Co., Newark, Ohio.
- Governors.**  
 Pickering Governor Co., Portland, Conn.
- Grain Elevator Supplies.**  
 Caldwell & Sons Co., H. W., Chicago, Ill.  
 Dodge Manufacturing Co., Mishawaka, Ind.  
 Jeffrey Mfg. Co., Columbus, O.  
 Link-Belt Co., Nictown (Philadelphia), Pa.
- Granite.**  
 Harris Granite Quarries Co., Salisbury, N. O.
- Graphite.**  
 Detroit Graphite Co., Detroit, Mich.  
 Dixon Crucible Co., Joseph, Jersey City, N. J.
- Grates and Grate Bars.**  
 Conroy Mfg. Co., North East, Md.  
 Patch & Son Co., S. B., Streator, Ill.  
 Thomas Grate Bar Co., Birmingham, Ala.
- Gravel.**  
 Arundel Sand & Gravel Co., Baltimore, Md.  
 Cassels Cement Gravel Co., Augusta, Ga.  
 Lathrop & Co., C. P., Richmond, Va.
- Greases and Lubricating Compounds.**  
 Cook's Sons, Adam, New York, N. Y.  
 Galena Signal Oil Co., Franklin, Pa.  
 Robinson & Son Co., Wm. C., Baltimore, Md.  
 Texas Co., The, New York, N. Y.
- Grease and Oil Cups and Lubricators.**  
 Cook's Sons, Adam, New York, N. Y.
- Grinders. (Gypsum, Limestone, etc.)**  
 Gardner Crusher Co., New York, N. Y.  
 Williams Pat. Crusher & Pulv. Co., Chicago, Ill.
- Grinding Wheels.**  
 Abrasive Material Co., Philadelphia, Pa.  
 Carborundum Co., Niagara Falls, N. Y.  
 Norton Co., Worcester, Mass.  
 Vitrified Wheel Co., Westfield, Mass.
- Groovers.**  
 Huther Bros. Saw Mfg. Co., Rochester, N. Y.
- Gunpowder.**  
 du Pont de Nemours Powder Co., E. I., Wilmington, Del.
- Hammers. (Steam, Power, Pneumatic.)**  
 Chicago Pneumatic Tool Co., Chicago, Ill.  
 Independent Pneumatic Tool Co., Chicago, Ill.  
 Ingersoll-Rand Co., New York, N. Y.
- Hand Elevators.**  
 McKenna Bros. Brass Co., Pittsburgh, Pa.  
 Sidney Elevator Mfg. Co., Sidney, O.
- Handle Machinery. [See Woodworking Machy.]**
- Hangers. [See Pulleys, Shifting and Hangers.]**
- Hardwood Doors and Trim.**  
 Mussey & Felton Lumber Co., Macon, Ga.
- Hauling Engines. (Steam Traction.)**  
 Case Threshing Mach. Co., J. I., Racine, Wis.
- Hay Tools.**  
 Myers & Bro., F. E., Ashland, O.
- Heater. (Portable, for Bituminous Pavements.)**  
 Ruggles-Coles Engineering Co., New York, N. Y.
- Heating Apparatus, Engineers and Contractors.**  
 American Blower Co., Detroit, Mich.  
 Bartlett-Hayward Co., Baltimore, Md.  
 Buffalo Forge Co., Buffalo, N. Y.  
 Monitor Steam Generator Mfg. Co., Balto., Md.  
 Peck-Hammond Co., The, Cincinnati, O.  
 Sturtevant Co., B. F., Hyde Park, Mass.
- Holisting Machinery.**  
 American Holist & Derrick Co., St. Paul, Minn.  
 Brown Holisting Mch. Co., Cleveland, O.  
 Byers Machine Co., John F., Ravenna, O.  
 Clyde Iron Works, Duluth, Minn.  
 Contractors' Plant Mfg. Co., Ltd., Buffalo, N. Y.  
 Dake Engine Co., Grand Haven, Mich.  
 Exeter Machine Works, Pittston, Pa.  
 Flyer Mfg. Co., S., Bangor, Pa.  
 Hayward Co., New York, N. Y.  
 Link-Belt Co., Nictown (Philadelphia), Pa.  
 Lidgerwood Mfg. Co., New York, N. Y.  
 Males Co., Cincinnati, O.
- Holists.**  
**CHAIN.**  
 Ford Chain Block & Mfg. Co., Philadelphia, Pa.  
 Speldel, J. G., Reading, Pa.
- ELECTRIC.**  
 American Holist & Derrick Co., St. Paul, Minn.  
 Lidgerwood Mfg. Co., New York, N. Y.  
 Monaghan Mch. Co., Chicago, Ill.  
 Northern Engineering Works, Detroit, Mich.  
 Patten Mfg. Co., Chattanooga, Tenn.
- PNEUMATIC MOTORS.**  
 Chicago Pneumatic Tool Co., Chicago, Ill.  
 Ingersoll-Rand Co., New York, N. Y.
- Hoops, Bands, etc. (Galvanized.)**  
 J. C. H. Galvanizing Co., Philadelphia, Pa.  
 McCalla, Harold, Philadelphia, Pa.
- Hoops. (Barrel.)**  
 American Steel & Wire Co., Chicago, Ill.  
 Carnegie Steel Co., Pittsburg, Pa.
- Hose.**  
 Eureka Fire Hose Mfg. Co., New York, N. Y.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.
- Hotels.**  
 Hotel Essex, Boston, Mass.
- Hot Water Service Heaters.**  
 Alberger Pump Co., New York, N. Y.
- Hydrants.**  
 Bourdon Copper & Brass Wks. Co., Cincinnati, O.  
 Columbian Iron Works, Chattanooga, Tenn.  
 Glamorgan Pipe & Foundry Co., Lynchburg, Va.  
 Gionis Mfg. Co., Seneca Falls, N. Y.  
 Myers & Bro., F. E., Ashland, O.  
 Wood & Co., H. D., Philadelphia, Pa.
- Hydraulic Giants.**  
 American Spiral Pipe Works, Chicago, Ill.
- Hydraulic Rams.**  
 Goulds Mfg. Co., Seneca Falls, N. Y.  
 Rife Engine Co., New York, N. Y.
- Icemaking Machinery and Supplies.**  
 Columbus Iron Works Co., Columbus, Ga.  
 Creamery Package Mfg. Co., Chicago, Ill.  
 Frick Co., The, Waynesboro, Pa.  
 Hague, John, St. Louis, Mo.  
 Remington Machine Co., Wilmington, Del.  
 Tait-Nordmeyer Eng. Co., St. Louis, Mo.  
 Vilter Mfg. Co., Milwaukee, Wis.  
 Vogt Machine Co., Henry, Louisville, Ky.  
 Wolf Mfg. Co., The, Fred W., Chicago, Ill.  
 York Mfg. Co., York, Pa.
- Incorporators. (Companies.)**  
 Delaware Trust Co., Wilmington, Del.
- Industrial, Agricultural and Commercial Opportunities.**  
**CITIES AND TOWNS.**  
 Atlanta, Ga., Ga. Bureau of Indus'y & Imm'gr.  
 Baltimore, Md., Gas & Electric Co.  
 Baltimore, Md., J. Lindsey Clark & Co.  
 Fayetteville, N. C., Chamber of Commerce.  
 Newport News, Va., Old Dominion Land Co.  
 Texas City, Tex., Texas City Transportation Co.
- RAILROADS.**  
 Atlanta, Birm'gh'm & Atlantic R. R., Atlanta, Ga.  
 Atlantic & West Point R. R. Co., Montgomery, Ala.  
 Baltimore & Ohio Railroad, Baltimore, Md.  
 Carolina, Clinchfield & O. Ry., Johnson City, Tenn.  
 Central of Georgia Ry. Co., Savannah, Ga.  
 Florida East Coast Ry., St. Augustine, Fla.  
 Illinois Central Railroad Co., Chicago, Ill.  
 Norfolk & Western Railway, Roanoke, Va.  
 Richmond, Fredericksburg & Potomac Railroad, Ashland, Va.  
 Seaboard Air Line, Portsmouth, Va.  
 Southern Railway Co., Washington, D. C.
- Industrial Track Work. [See Railways, Ind.]**
- Injectors.**  
 Jenkins Bros., New York, N. Y.  
 Sellers & Co., Inc., Wm., Philadelphia, Pa.
- Insulating Materials.**  
 Johns-Manville Co., H. W., New York, N. Y.
- Insurance.**  
 Hartford Fire Insurance Co., Hartford, Conn.  
 Hartford Steam Boiler Inspection & Ins. Co., Hartford, Conn.  
 Maryland Casualty Co., Baltimore, Md.
- Interior Trim. (Metallic.)**  
 Dahlstrom Metallic Door Co., Jamestown, N. Y.  
 U. S. Metal Products Co., New York, N. Y.
- Interstate Commerce Practice.**  
 Van Sant, Frank, Washington, D. C.
- Iron.**  
 Albion Con. Coal & Iron Co., Birmingham, Ala.  
 American Rolling Mill Co., Middletown, O.  
 La Belle Iron Works, Steubenville, O.  
 Lebanon Valley Iron & Steel Co., Lebanon, Pa.  
 Milton Mfg. Co., Milton, Pa.  
 Republic Iron & Steel Co., Youngstown, O.  
 Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.  
 Wood Iron & Steel Co., Alan, Philadelphia, Pa.
- Irrigation Machinery.**  
 Blakelee Mfg. Co., Du Quoin, Ill.  
 Cameron Steam Pump Wks., A. S., New York, N. Y.
- Journals. (Financial.)**  
 Financial Review, New York, N. Y.
- Kettles. (Steam Jacket.)**  
 Badger & Sons Co., E. B., Boston, Mass.  
 Petroleum Iron Works Co., Sharon, Pa.
- Key Seater. (Portable.)**  
 Burr & Son, John T., Brooklyn, N. Y.
- Knitting Machinery.**  
 Acme Knitting Machine & Needle Co., Franklin Falls, N. H.
- Lacquers. (All Purposes.)**  
 Durlaque Mfg. Co., St. Louis, Mo.
- Lamp Posts. (Electric, Gas.)**  
 Western Gas Construction Co., Ft. Wayne, Ind.
- Lamps. (Arc and Incandescent.)**  
 Boston Incandescent Lamp Co., Danvers, Mass.  
 Columbia Incandescent Lamp Co., St. Louis, Mo.  
 Doubleday-Hill Electric Co., Pittsburg, Pa.  
 Fostoria Incandescent Lamp Co., Fostoria, O.  
 General Electric Co., Schenectady, N. Y.  
 Kentucky Electrical Co., Owensboro, Ky.  
 Lee Electric Co., Baltimore, Md.  
 Piedmont Electric Co., Asheville, N. C.  
 Western Electric Co., New York, N. Y.  
 Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.

- Lands.**  
Clark & Co., J. Lindsey, Baltimore, Md.  
Fendig & Co., Albert, Brunswick, Ga.  
Kimbrough & Co., J. T., Atlanta, Ga.  
Morris & Co., Abbot, Norfolk, Va.  
Nubbaum & Co., S. L., Norfolk, Va.  
Robertson, W. W., Norfolk, Va.
- Lath. (Expanded Metal.)**  
Carolina Portland Cement Co., Charleston, S. C.  
Milwaukee Corrugating Co., Milwaukee, Wis.
- Lathes. (Engine.)**  
Greaves, Klusman & Co., Cincinnati, O.  
Manning, Maxwell & Moore, Inc., New York, N. Y.  
Miami Valley Mch. Tool Co., Dayton, O.
- Lawn Furniture.**  
Bates Iron & Wire Works, J. E., Detroit, Mich.  
Dufur & Co., Baltimore, Md.  
Dufur, Baggett & Co., Baltimore, Md.
- Leadite.**  
Leadite Co., The, Philadelphia, Pa.
- Lighting Equipment.**  
Holophone Co., Newark, Ohio.
- Lime.**  
Carolina Portland Cement Co., Charleston, S. C.  
Security Cement & Lime Co., Baltimore, Md.  
Southeastern Lime & Cement Co., Charleston, S. C.  
Tidewater Portland Cement Co., Baltimore, Md.
- Lime. (Hydrated.)**  
Security Cement & Lime Co., Baltimore, Md.  
Tidewater Portland Cement Co., Baltimore, Md.
- Lime Kilns and Equipment.**  
Improved Equipment Co., New York, N. Y.
- Limestone Products.**  
Security Cement & Lime Co., Baltimore, Md.
- Liquor Filters.**  
International Filter Co., Chicago, Ill.
- Lithographers, Engravers.**  
Young & Selden Co., Baltimore, Md.
- Lockers. (Metal.)**  
Eagley Metal Ceiling Mfg. Co., S., Pittsburgh, Pa.
- Locomotives.**  
**INDUSTRIAL.**  
American Locomotive Co., New York, N. Y.  
Baldwin Locomotive Works, The, Philadelphia, Pa.  
Bryer Machine Co., John P., Ravensna, O.  
Climax Mfg. Co., Corry, Pa.  
Davenport Locomotive Works, Davenport, Ia.  
Jeffrey Mfg. Co., Columbus, O.  
Lima Locomotive & Machine Co., Lima, O.  
Males Co., Cincinnati, O.  
Porter Co., H. K., Pittsburgh, Pa.  
Vulcan Iron Works, Wilkes-Barre, Pa.
- RAILWAY.**  
American Locomotive Co., New York, N. Y.  
Baldwin Locomotive Works, The, Philadelphia, Pa.  
Lima Locomotive & Machine Co., Lima, O.  
Males Co., Cincinnati, O.  
Southern Supply Co., Norfolk, Va.
- Looms and Weaving Machinery.**  
Draper Co., Hopedale, Mass.  
Mason Machine Works, Taunton, Mass.
- Lumber.**  
Industrial Lumber Co., Elizabeth, La.  
Massee & Felton Lumber Co., Macon, Ga.
- Lumber. (Heavy Construction, Pitch Pine, etc.)**  
Massee & Felton Lumber Co., Macon, Ga.  
National Lumber & Creosote Co., Texarkana, Ark.  
Taylor & Co., S. E., Gulfport, Miss.
- Lumber. (Yellow Pine.)**  
Industrial Lumber Co., Elizabeth, La.
- Lumber Buggies.**  
Sole Steam Feed Works, Meridian, Miss.
- Lumber Stackers.**  
Sole Steam Feed Works, Meridian, Miss.
- Machinery. (Special.)**  
Black & Decker Mfg. Co., Baltimore, Md.  
Bliss Co., E. W., Brooklyn, N. Y.  
Eliot, Lewis T., Alpena, Mich.  
Lester & Co., Charles, Brooklyn, N. Y.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Rogersford Fdry. & Mch. Wks., Rogersford, Pa.  
Stratton & Bragg Co., Petersburg, Va.  
Universal Telegraphic Co., Baltimore, Md.
- Machinery and Supplies. (New and Second-Hand Bargains.)**  
Balto. Iron, Steel & Metal Co., Baltimore, Md.  
Balto. Metal Mchry. & Supply Co., Baltimore, Md.  
Boston Iron & Metal Co., Baltimore, Md.  
Chicago House Wrecking Co., Chicago, Ill.  
Chicago Reeling & Machinery Co., Cleveland, O.  
Dorner Railway Equipment Co., Chicago, Ill.  
Dunets & Son, New York, N. Y.  
Hiltner's Sons Co., Henry A., Philadelphia, Pa.  
Hyde Bros. & Co., New York, N. Y.  
Illinois Machinery Co., Chicago, Ill.  
Lehman, Charles T., Birmingham, Ala.  
Levene & Co., E., Philadelphia, Pa.  
Linton, W. J., New York, N. Y.  
Lodge & Shipley Machine Tool Co., Cincinnati, O.  
Marine Metal & Supply Co., New York, N. Y.  
Mathes Iron & Metal Co., G., St. Louis, Mo.  
Pfeiffer Engineering Co., Chicago, Ill.  
Pickett Co., Inc., H. W., Philadelphia, Pa.  
Pittsburgh Mchry. & Equip. Co., Pittsburgh, Pa.  
Prentiss Tool & Supply Co., New York, N. Y.  
Randle Machinery Co., Cincinnati, O.  
Read Co., Howard W., Philadelphia, Pa.  
Riker Machinery Co., New York, N. Y.  
Samuel, Frank, Philadelphia, Pa.  
Seyfert's Sons, Inc., L. F., Philadelphia, Pa.  
Southern Supply Co., Norfolk, Va.  
Tampa Machinery Exchange, Tampa, Fla.  
Texas Supply Co., Elsmont, Tex.  
Tommer, Frank, Philadelphia, Pa.  
Winterer Co., Herman L., Philadelphia, Pa.  
Yearley, Thomas, Philadelphia, Pa.
- Machine Tools.**  
Greaves, Klusman & Co., Cincinnati, O.  
Manning, Maxwell & Moore, Inc., New York, N. Y.  
Miami Valley Mch. Tool Co., Dayton, O.
- Machinists. (Engineers.)**  
American Mch. & Mfg. Co., Charlotte, N. C.  
Roanoke Iron Works, Inc., Roanoke, Va.  
Stratton & Bragg Co., Petersburg, Va.  
Universal Telegraphic Co., Baltimore, Md.
- Magnesia Materials.**  
Johns-Manville Co., H. W., New York, N. Y.
- Magnesite. (Dead Burned.)**  
Harrison-Walker Refractories Co., Pittsburgh, Pa.
- Magnets. (Electric Lift.)**  
Browning Engineering Co., Cleveland, O.
- Magnet Electro. (For Cottonseed, Linters and Hullers.)**  
Dixie Electro Magnet Co., Memphis, Tenn.
- Magnetic Separators.**  
Faxson Co., J. W., Philadelphia, Pa.
- Mail Chutes.**  
Cutler Mail Chute Co., Rochester, N. Y.
- Mantels. (Wooden.)**  
Northcross Mantel Co., W. J., Memphis, Tenn.
- Marble Work. (Interior.)**  
Dagostin & Angelini Bros., Montgomery, Ala.  
Southern Mosaic Tile Co., Birmingham, Ala.
- Mechanical Draft.**  
American Blower Co., Detroit, Mich.  
Buffalo Steam Pump Co., Buffalo, N. Y.  
Garden City Fan Co., Chicago, Ill.  
Sturtevant Co., B. F., Hyde Park, Mass.
- Metal Ceilings. [See Ceilings, Metal.]**
- Metaline.**  
North Amer. Metaline Co., Long Island City, N. Y.
- Metal Culverts. [See Culverts.] (Corrugated Metal.)**
- Metal Polish.**  
Hoffman, Geo. W., Indianapolis, Ind.
- Metal Shingles.**  
Burriss & Co., John T., Anderson, S. C.  
Chattanooga Rfg. & Fdry. Co., Chattanooga, Tenn.  
Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.  
Cortright Metal Roofing Co., Philadelphia, Pa.  
Edwards Manufacturing Co., Cincinnati, O.  
Hyndman Roofing Co., Cincinnati, O.
- Metal Window Frames and Sashes.**  
Detroit Steel Products Co., Detroit, Mich.  
Edwards Mfg. Co., The, Cincinnati, O.  
Kelchley Metal Cell. & Mfg. Co., S., Pittsburg, Pa.  
United States Metal Products Co., New York, N. Y.  
Volgtmann & Co., Chicago, Ill.
- Metal Work. (Stamped and Embossed Hotel Checks, Key Tags, etc.)**  
American Railway Supply Co., New York, N. Y.
- Metal-Working Machinery.**  
Bertsch & Co., Cambridge City, Ind.  
Bliss Co., E. W., Brooklyn, N. Y.  
Gibbs Machinery Co., Columbia, S. C.  
Lester & Co., Charles, Brooklyn, N. Y.  
Price Machinery Co., S. M., Norfolk, Va.  
Rogersford Fdry. & Mch. Co., Rogersford, Pa.
- Micrometers, Calipers, Etc.**  
Starrett Co., L. S., Athol, Mass.
- Milk Filters. (Liquor, Milk, etc.)**  
International Filter Co., Chicago, Ill.
- Mill Engineers and Architects.**  
Lockwood, Greene & Co., Boston, Mass.  
Stryke, J. E., Greenville, S. C.
- Mill Supplies.**  
Appomattox Iron Works, Petersburg, Va.  
Bailey-Libby Co., Charleston, S. C.  
Cameron & Barkley Co., Charleston, S. C.  
Gainesville Iron Works, Gainesville, Ga.  
Greenwald Co., I. & E., Cincinnati, O.  
Lombard Iron Works, Augusta, Ga.  
Manning, Maxwell & Moore, Inc., New York, N. Y.  
Necklenburg Iron Works, Charlotte, N. C.  
Nurdyke & Marmon Co., Indianapolis, Ind.  
Salem Foundry & Machine Works, Salem, Va.  
Smith-Courtney Co., Richmond, Va.  
Starr Co., B. F., Baltimore, Md.  
Stratton & Bragg Co., Petersburg, Va.  
Ward-Hecke Co., Washington, D. C.  
Wolf Co., Chambersburg, Pa.
- Mining Machinery. (Gold, Copper, Plate, etc.)**  
Bartlett & Snow Co., C. O., Cleveland, O.  
Jeffrey Mfg. Co., Columbus, O.  
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.  
Necklenburg Iron Works, Charlotte, N. C.  
Nurdyke & Marmon Co., Indianapolis, Ind.  
Power & Mining Machinery Co., Cudahy, Wis.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
- Mixer Machinery.**  
Smith Co., T. L., Atlanta, Ga.
- Mixing Machinery.**  
Dunning, W. D., Syracuse, N. Y.  
Lynn Superior Co., The, Cincinnati, O.
- Mortar Colors.**  
Chattanooga Paint Co., Chattanooga, Tenn.
- Motor Trucks.**  
Kelly Motor Truck Co., Springfield, O.  
Schuch Motor Car Co., Cincinnati, Ohio.
- Mouldings, Casings, etc.**  
Massee & Felton Lumber Co., Macon, Ga.
- Nails and Spikes.**  
American Steel & Wire Co., Chicago, Ill.  
Hoffman & Co., R. C., Baltimore, Md.  
Lebanon Valley Iron & Steel Co., Lebanon, Pa.  
Republic Iron & Steel Co., Youngstown, O.  
West Virginia Rail Co., The, Huntington, W. Va.  
Youngstown Sheet & Tube Co., Youngstown, O.
- Nitre Pots, Eggs.**  
Pratt Engineering & Mach. Co., Atlanta, Ga.
- Nuts. [See Bolts, Nuts, Rivets, etc.]**
- Office Furniture.**  
Ruse & Thompson, Baltimore, Md.
- Oils. (Lubricating, etc.)**  
Borne-Scrymgeour Co., New York, N. Y.  
Hoffman & Co., R. C., Baltimore, Md.  
Gulf Refining Co., Pittsburgh, Pa.  
Robinson & Son Co., Wm. C., Baltimore, Md.  
Texas Co., The, New York, N. Y.
- Oil-Burning Appliances.**  
Petroleum Iron Works Co., Sharon, Pa.
- Oil Cans.**  
Wall Mfg. Supply Co., P., Allegheny, Pa.
- Oil Engines. [See Engines (Oil).]**
- Oil Separators.**  
Stewart Heater Co., Buffalo, N. Y.
- Oil Stones.**  
Carborundum Co., Niagara Falls, N. Y.  
Norton Co., Worcester, Mass.
- Oil-Well Machinery.**  
Keystone Steam Well Mach. Co., Beaver Falls, Pa.  
Williams Bros., Ithaca, N. Y.
- Ore Briquetting Machinery.**  
Devillers, Robert, Brooklyn, N. Y.
- Ornamental Iron Work.**  
Belmont Iron Works, Inc., Philadelphia, Pa.  
Bolles Iron & Wire Works, J. E., Detroit, Mich.  
Chattanooga Iron & Wire Wks., Chattanooga, Tenn.  
Chesapeake Iron Works, Baltimore, Md.  
Dow Wire Works Co., Louisville, Ky.  
Ohio Elevator & Machine Co., The, Columbus, O.  
Roanoke Iron Works, Inc., Roanoke, Va.  
Schreiber & Sons Co., The, L., Cincinnati, O.  
Sneed Architectural Iron Works, Louisville, Ky.  
Southern Wire & Iron Mfg. Co., Dallas, Tex.
- Packing. (Asbestos, Metallic, Rubber, Leather, etc.)**  
American Huhn Packing Co., New York, N. Y.  
Jenkins Bros., New York, N. Y.  
Johns-Manville Co., H. W., New York, N. Y.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Power Specialty Co., New York, N. Y.
- Paint. (Bridge.)**  
Detroit Graphite Co., Detroit, Mich.  
Dixon Crucible Co., Jos., Jersey City, N. J.  
Linsine Co., Philadelphia, Pa.  
National Roofing Co., Tonawanda, N. Y.
- Paints. (Cold Water.)**  
Wilhelm Co., A., New York, N. Y.
- Paint. (Metal Preservative.)**  
Detroit Graphite Co., Detroit, Mich.  
Linsine Co., Philadelphia, Pa.  
National Roofing Co., Tonawanda, N. Y.  
Wilhelm Co., A., New York, N. Y.
- Paint. (Roofing, Building, etc.)**  
Armstrong Mfg. Co., The, Richmond, Va.  
Bird & Son, F. W., East Walpole, Mass.  
Cameron & Barkley Co., Charleston, S. C.  
Carolina Portland Cement Co., Charleston, S. C.  
Chattanooga Paint Co., Chattanooga, Tenn.  
Detroit Graphite Co., Detroit, Mich.  
Dixon Crucible Co., Jos., Jersey City, N. J.  
Glidden Varnish Co., Cleveland, O.  
Linsine Co., Philadelphia, Pa.  
National Roofing Co., Tonawanda, N. Y.  
Standard Paint Co., New York, N. Y.  
Wilhelm Co., A., New York, N. Y.
- Painting. (Contractors for Bridges, Buildings, etc.)**  
Dinlaco & Bro., A., Pittsburgh, Pa.
- Paint-making Machinery.**  
Campbell, P. F., Philadelphia, Pa.  
Lynn Superior Co., The, Cincinnati, O.
- Paper. (Roofing, Building, Sheathing, etc.)**  
Armstrong Mfg. Co., The, Richmond, Va.  
Barrett Mfg. Co., Philadelphia, Pa.  
Berlin Mills Co., Portland, Maine.  
Bird & Son, F. W., East Walpole, Mass.  
Cameron & Barkley Co., Charleston, S. C.  
Southeastern Lime & Cement Co., Charleston, S. C.
- Paper. (Wrapping.)**  
Berlin Mills Co., Portland, Maine.
- Passenger Coach Steps. (Extension.)**  
Blake Car Step Works, Charlotte, N. C.
- Patent Attorneys.**  
Brown, Eugene C., Washington, D. C.  
Chandler & Co., H. Ellis, Washington, D. C.  
Chandler & Co., H. Ellis, Washington, D. C.  
Evans & Co., Victor J., Washington, D. C.  
Hamlin, Geo. H., Washington, D. C.  
Lacey, R. S. & A. B., Washington, D. C.  
Owen, Richard B., Washington, D. C.
- Patterns.**  
Roanoke Iron Works, Inc., Roanoke, Va.
- Pavement Filler.**  
Barrett Mfg. Co., Philadelphia, Pa.
- Paving. (Contractors for Creosoted Wood Block.)**  
Creosoted Wood Block Pav. Co., New Orleans, La.
- Paving Blocks. (Granite.)**  
Harris Granite Quarries Co., Salisbury, N. C.
- Paving Blocks. (Wood Creosote-Resinate.)**  
Gulport Creosoting Co., Gulfport, Miss.  
Southern Wood Preserving Co., Atlanta, Ga.  
U. S. Wood Preserving Co., New York, N. Y.
- Paving Brick.**  
Carlyle Paving Brick Co., Portsmouth, O.  
Copeland-Ingalls Shale Brick Co., Birmingham, Ala.
- Paving Machines. (Bituminous Materials.)**  
Smith Co., T. L., Atlanta, Ga.
- Perforated Metal.**  
Caldwell & Son, H. W., Chicago, Ill.  
Erdle Perforating Co., Rochester, N. Y.  
Hendrick Mfg. Co., The, Carbondale, Pa.  
Mundt & Sons, Charles, Jersey City, N. J.
- Perspectives. (Water Color, for Architects.)**  
Alger & Smith, Atlanta, Ga.
- Petroleum Refiners.**  
Gulf Refining Co., Pittsburgh, Pa.  
Standard Oil Co., Cincinnati, O.
- Phosphate Machinery.**  
Alsing Engineering Co., J. R., New York, N. Y.  
American Process Co., New York, N. Y.  
Bailey-Libby Co., The, Charleston, S. C.  
Cameron & Barkley Co., Charleston, S. C.  
Link-Belt Co., Nictown (Philadelphia), Pa.  
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.  
Pratt Engineering & Mach. Co., Atlanta, Ga.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Valk & Murdoch Iron Works, Charleston, S. C.  
Walker & Elliott, Wilmington, Del.
- Phosphor-Bronze. (Wire Rods, Sheets.)**  
Phosphor-Bronze Smelting Co., Philadelphia, Pa.
- Photo-Engravers.**  
Baltimore Maryland Engr. Co., Baltimore, Md.
- Pig Iron.**  
Alabama Iron Coal & Iron Co., Birmingham, Ala.  
La Belle Iron Works, Steubenville, O.  
Republic Iron & Steel Co., Youngstown, O.  
Rogers, Brown & Co., Cincinnati, O.  
Tennessee Coal, Iron & R. R. Co., B'm'g'm, Ala.
- Pile Drivers.**  
Browning Engineering Co., Cleveland, O.  
Bucyrus Co., The, Milwaukee, Wis.  
Vulcan Iron Works, Chicago, Ill.
- Pillars. (Concrete.)**  
Underground Constr. Co., The, St. Louis, Mo.
- Piling. (Creosoted.)**  
Gulport Creosoting Co., Gulfport, Miss.  
Intern'l Creosoting & Const. Co., Galveston, Tex.  
Southern Creosoting Co., Ltd., Slidell, La.
- Pillow Blocks.**  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Dodge Manufacturing Co., Mishawaka, Ind.  
Golden's Foundry & Machine Co., Columbus, Ga.
- Pine Tar.**  
Atlantic Turpentine & Refin'g Co., Savannah, Ga.
- Pipe. (Cast Iron.)**  
American Cast Iron Pipe Co., Birmingham, Ala.  
American Pipe & Construction Co., Phila., Pa.  
General Fire Extinguisher Co., Providence, R. I.  
Glamorgan Pipe & Foundry Co., Lynchburg, Va.  
McWane Pipe Works, Lynchburg, Va.  
U. S. Cast Iron Pipe & Fdry. Co., New York, N. Y.  
Wood & Co., R. D., Philadelphia, Pa.
- Pipe. (Coff.)**  
Columbus Iron Works Co., Columbus, Ga.  
Frick Co., The, Waynesboro, Pa.  
National Pipe Bending Co., New Haven, Conn.  
Whitlock Coil Pipe Co., Hartford, Conn.  
Wolf Co., Fred W., Chicago, Ill.  
York Mfg. Co., York, Pa.
- Pipe. (Corrugated Culvert.)**  
American Rolling Mill Co., Middletown, O.  
Canton Culvert Co., The, Canton, O.  
Dixie Culvert & Metal Co., Atlanta, Ga.  
Harry Steel Co., O. K., St. Louis, Mo.  
Kentucky Culvert Mfg. Co., Buechel, Ky.  
North Carolina Metal Culv. Co., Greensboro, N. C.  
Virginia Metal Culvert Co., Roanoke, Va.  
Virginia Railway Supply Co., Norfolk, Va.
- Pipe. (Riveted.)**  
Abendroth & Root Mfg. Co., Newburgh, N. Y.  
Keeler Co., E., Williamsport, Pa.  
Petroleum Iron Works Co., Sharon, Pa.
- Pipe. (Spiral Riveted.)**  
Abendroth & Root Mfg. Co., Newburgh, N. Y.  
American Spiral Pipe Works, Chicago, Ill.
- Pipe. (Wood.)**  
Wyckoff & Son Co., A., Elmira, N. Y.
- Pipe. (Wrought.)**  
General Fire Extinguisher Co., Providence, R. I.  
La Belle Iron Works, Steubenville, O.  
National Tube Co., Pittsburgh, Pa.  
Youngstown Sheet & Tube Co., Youngstown, O.
- Pipe Bends.**  
Columbus Iron Works Co., Columbus, Ga.  
Whitlock Coil Pipe Co., Hartford, Conn.
- Pipe Covering. (Steam.)**  
Johns-Manville Co., H. W., New York, N. Y.  
Southern Pipe Covering Co., Inc., Richmond, Va.  
Wyckoff & Son Co., A., Elmira, N. Y.
- Pipe Cutting and Threading Machinery.**  
Saunders' Sons, D., Yonkers, N. Y.
- Pipe Fittings.**  
American Cast Iron Pipe Co., Birmingham, Ala.  
Columbus Iron Works Co., Columbus, Ga.  
General Fire Extinguisher Co., Providence, R. I.  
Wolf Co., Fred W., Chicago, Ill.  
York Mfg. Co., York, Pa.
- Pipe Jointing. (Gas and Water Main.)**  
Leadite Co., The, Philadelphia, Pa.
- Pipe Locator.**  
Modern Iron Works, Quincy, Ill.
- Pipe Unions and Joints.**  
Dart Mfg. Co., E. M., Providence, R. I.  
National Tube Co., Pittsburgh, Pa.  
Whitlock Coil Pipe Co., Hartford, Conn.
- Pipe Wrenches and Cutters.**  
Saunders' Sons, D., Yonkers, N. Y.
- Pitch.**  
Barrett Mfg. Co., Philadelphia, Pa.
- Planers. (Metal.)**  
Manning, Maxwell & Moore, Inc., New York, N. Y.
- Planing Mill Work.**  
Massee & Felton Lumber Co., Macon, Ga.
- Plaster of Paris.**  
King & Co., J. B., New York, N. Y.
- Plaster.**  
Security Cement & Lime Co., Baltimore, Md.
- Plaster. (Asbestos Cement, Plaster of Paris.)**  
King & Co., J. B., New York, N. Y.
- Plaster Boards.**  
King & Co., J. B., New York, N. Y.  
Plaster Products Co., Hampton, Va.
- Plaster Machinery.**  
Bartlett & Snow Co., C. O., Cleveland, O.
- Plates.**  
Cincinnati Iron & Steel Co., Cincinnati, O.  
Wood Iron & Steel Co., Alan, Philadelphia, Pa.
- Plugs. (Wall.)**  
Wilks & Co., Milton O., Glen Cove, N. Y.
- Pneumatic Tools. [See Tools—Pneumatic.]**
- Poles. (Transmission Line: Steel.)**  
Ritter-Conley Mfg. Co., Pittsburgh, Pa.
- Polishing Machinery. (Wheels and Blocks.)**  
Abrasive Material Co., Philadelphia, Pa.  
Carborundum Co., Niagara Falls, N. Y.  
Springfield Tire & Rubber Co., Springfield, O.  
Vitified Wheel Co., Westfield, Mass.
- Power Transmission Machinery.**  
Bailey-Libby Co., Charleston, S. C.  
Brown Co., A. & F., New York, N. Y.  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Cresson Co., Geo. V., Philadelphia, Pa.  
Dayton Globe Iron Works Co., Dayton, O.  
Dodge Manufacturing Co., Mishawaka, Ind.  
Golden's Foundry & Machine Co., Columbus, Ga.  
Greenwald Co., I. & E., Cincinnati, O.  
Jeffrey Mfg. Co., Columbus, O.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Lane Mfg. Co., Montpelier, Vt.  
Link-Belt Co., Nictown (Philadelphia), Pa.  
Morse Chain Co., Ithaca, N. Y.  
Nurdyke & Marmon Co., Indianapolis, Ind.  
Poole Engineering & Machine Co., Baltimore, Md.  
Positive Clutch & Pulley Works, Buffalo, N. Y.  
Price Machinery Co., S. M., Norfolk, Va.  
Scholfield's Sons Co., J. S., Macon, Ga.  
Wood's Sons Co., T. E., Chambersburg, Pa.
- Presses. (Baling, Cottonseed Oil, etc., Hydraulic and Power.)**  
Boomer & Bochart Press Co., Syracuse, N. Y.  
Cardwell Machine Co., Richmond, Va.  
Continental Gin Co., Birmingham, Ala.  
Gibbs Machinery Co., Columbia, S. C.
- Presses. (Stamping.)**  
Hiles Co., E. W., Brooklyn, N. Y.  
Lester & Co., Charles, Brooklyn, N. Y.
- Preventive for Sap Stain.**  
Church & Dwight Co., New York, N. Y.
- Printers. (Book, Catalog, Job, etc.)**  
Fleet-McGinley Co., Baltimore, Md.  
Franklin Press Co., Petersburg, Va.



**Promoters. (Public Utilities.)**

Electric Bond &amp; Share Co., New York.

**Protector Steel. (Concrete Curb, Steps, etc.)**

Steel Protected Concrete Co., Philadelphia, Pa.

**Pulleys. (Friction Clutch.)**

Brown Co., A. & F., New York, N. Y.  
 Caldwell Co., Inc., W. E., Louisville, Ky.  
 Caldwell & Son Co., H. W., Chicago, Ill.  
 Cresson Co., Geo. V., Philadelphia, Pa.  
 Dodge Manufacturing Co., Mishawaka, Ind.  
 Dodge Manufacturing & Machine Co., Baltimore, Md.  
 Positive Clutch & Pulley Works, Buffalo, N. Y.  
 Sinclair-Scott Co., Baltimore, Md.  
 Woods' Sons Co., T. B., Chambersburg, Pa.

**STEEL SPLIT.**

American Pulley Co., Philadelphia, Pa.  
 Dodge Manufacturing Co., Mishawaka, Ind.  
**WOOD SPLIT.**  
 Caldwell Co., Inc., W. E., Louisville, Ky.  
 Caldwell & Son Co., H. W., Chicago, Ill.  
 Dodge Manufacturing Co., Mishawaka, Ind.  
 Lane Mfg. Co., Montpelier, Vt.  
 Positive Clutch & Pulley Works, Buffalo, N. Y.  
 Saginaw Mfg. Co., Saginaw, Mich.  
 Salem Foundry & Machine Works, Salem, Va.

**Pulleys, Shafting and Hangers.**

Caldwell Co., Inc., W. E., Louisville, Ky.  
 Caldwell & Son Co., H. W., Chicago, Ill.  
 Cresson Co., Geo. V., Philadelphia, Pa.  
 Dodge Manufacturing Co., Mishawaka, Ind.  
 Golden's Foundry & Machine Co., Columbus, Ga.  
 Greenwald Co., L. & E., Cincinnati, O.  
 Jeffrey Mfg. Co., Columbus, O.  
 Jones & Laughlin Steel Co., Pittsburgh, Pa.  
 Lane Mfg. Co., Montpelier, Vt.  
 Link-Belt Co., Newtown (Philadelphia), Pa.  
 Nordyke & Marmion Co., Indianapolis, Ind.  
 Poole Engineering & Machine Co., Baltimore, Md.  
 Positive Clutch & Pulley Works, Buffalo, N. Y.  
 Standard Roller Bearing Co., Philadelphia, Pa.  
 Woods' Sons Co., T. B., Chambersburg, Pa.

**Pumps. (Centrifugal.)**

Alberget Pump Co., New York, N. Y.  
 Buffalo Steam Pump Co., Buffalo, N. Y.  
 De Laval Steam Turbine Co., Trenton, N. J.  
 Emerson Steam Pump Co., Alexandria, Va.  
 Erie Pump & Engine Works, Erie, Pa.  
 Goulds Mfg. Co., Seneca Falls, N. Y.  
 Houghton Pump Co., Quincy, Ill.  
 Morris Machine Works, Baldwinville, N. Y.  
 Wheeler Condenser & Eng. Co., New York, N. Y.  
 Wood & Co., R. D., Philadelphia, Pa.  
 Worthington, H. R., New York, N. Y.

**Pumps. (Deep Well.)**

McGowan Co., John H., Cincinnati, O.  
**Pumps. (Hydraulic.)**  
 Buffalo Steam Pump Co., Buffalo, N. Y.  
 Cardwell Machine Co., Richmond, Va.  
 Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
 Emerson Steam Pump Co., Alexandria, Va.  
 Erie Pump & Engine Wks., Erie, Pa.  
 Goulds Mfg. Co., Seneca Falls, N. Y.  
 Worthington, H. R., New York, N. Y.

**Pumps. (Lift and Force.)**

Goulds Mfg. Co., Seneca Falls, N. Y.  
 Ingersoll-Rand Co., New York, N. Y.

**Pumps. (Odorous and Excavating.)**

Goulds Mfg. Co., Seneca Falls, N. Y.

**Pumps. (Pneumatic.)**

Ingersoll-Rand Co., New York, N. Y.

**Pumps. (Boiler Feed.)**

Alberget Pump Co., New York, N. Y.  
 Cameron Steam Pump Wks., A. S., New York, N. Y.  
 Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
 Goulds Mfg. Co., Seneca Falls, N. Y.  
 McGowan Co., John H., Cincinnati, O.  
 Moffatt Machinery Mfg. Co., Charlotte, N. C.  
 Murray Iron Works Co., Burlington, Ia.  
 Myers & Bros., F. E., Ashland, O.  
 Union Steam Pump Co., Battle Creek, Mich.  
 Worthington, H. R., New York, N. Y.

**Pumps. (Rotary.)**

Goulds Mfg. Co., Seneca Falls, N. Y.

**Pumps. (Steam.)**

Blakeslee Mfg. Co., Du Quoin, Ill.  
 Buffalo Steam Pump Co., Buffalo, N. Y.  
 Cameron Steam Pump Wks., A. S., New York, N. Y.  
 Cameron & Barkley Co., Charleston, S. C.  
 Cook Well Co., The, St. Louis, Mo.  
 Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
 Deane Steam Pump Co., Holyoke, Mass.  
 Gibbs Machinery Co., Columbus, S. C.  
 Goulds Mfg. Co., Seneca Falls, N. Y.  
 Hooven, Owen, Rentschler Co., Hamilton, O.  
 Keystone Pump & Well Engine Co., Beaver Falls, Pa.  
 Keystone Pump & Well Eng. Co., Beaver Falls, Pa.  
 McGowan Co., John H., Cincinnati, O.  
 Murray Iron Works Co., Burlington, Ia.  
 Price Machinery Co., S. M., Norfolk, Va.  
 Sydnor Pump & Well Co., Richmond, Va.  
 Union Steam Pump Co., Battle Creek, Mich.  
 Wheeler Condenser & Eng. Co., New York, N. Y.  
 Worthington, H. R., New York, N. Y.

**Pumps. (Trench.)**

C. H. & E. Mfg. Co., Milwaukee, Wis.  
 Goulds Mfg. Co., Seneca Falls, N. Y.

**Pumps. (Vacuum.)**

Alberget Pump Co., New York, N. Y.  
 Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
 Goulds Mfg. Co., Seneca Falls, N. Y.  
 Smith Co., T. L., Atlanta, Ga.  
 Union Steam Pump Co., Battle Creek, Mich.  
 Wheeler Condenser & Eng. Co., New York, N. Y.

**Pumps. (Water-works.)**

McGowan Co., John H., Cincinnati, O.

**Pumping Machinery.**

Allis-Chalmers Co., Milwaukee, Wis.  
 Blakeslee Mfg. Co., Du Quoin, Ill.  
 Cameron Steam Pump Wks., A. S., New York, N. Y.  
 C. H. & E. Mfg. Co., Milwaukee, Wis.  
 Cook Well Co., The, St. Louis, Mo.  
 Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
 Deane Steam Pump Co., Holyoke, Mass.  
 Deming Co., Salem, O.  
 Erie Pump & Engine Works, Erie, Pa.  
 Fairbanks, Morse & Co., Chicago, Ill.  
 Goulds Mfg. Co., Seneca Falls, N. Y.  
 Hooven, Owen, Rentschler Co., Hamilton, O.  
 Keystone Pump & Well Eng. Co., Beaver Falls, Pa.  
 McGowan Co., John H., Cincinnati, O.  
 Moffatt Machinery Mfg. Co., Charlotte, N. C.  
 Morris Machine Works, Baldwinville, N. Y.  
 Myers & Bros., F. E., Ashland, O.  
 Parser, J. R., Charlotte, N. C.  
 Sydnor Pump & Well Co., Richmond, Va.  
 Union Steam Pump Co., Battle Creek, Mich.  
 Wood & Co., R. D., Philadelphia, Pa.  
 Worthington, H. R., New York, N. Y.

**Punching and Shearing Machinery.**

Bertsch & Co., Cambridge City, Ind.  
 Bliss Co., E. W., Brooklyn, N. Y.  
 Rogersford Foundry & Mach. Co., Rogersford, Pa.  
 Pyrites Burners.  
 Pratt Engineering & Mach. Co., Atlanta, Ga.

**Quarrying and Stonecutting Machinery.**

Ingersoll-Rand Co., New York, N. Y.  
 Railings, Grilles, etc. (Brass.)  
 McKenna Bros. Brass Co., Pittsburgh, Pa.

**Railroads. (Agricultural and Industrial Opportunities.) [See Industrial, Agricultural and Commercial Opportunities.]****Railroads. (Passenger Department.)**

Illinois Central Railroad, Chicago, Ill.

**Railroad Equipment and Supplies. (New and Second-hand.)**

American Frog & Switch Co., Hamilton, O.  
 American Locomotive Co., New York, N. Y.  
 American Valve & Meter Co., Cincinnati, O.  
 Barber Asphalt Paving Co., Philadelphia, Pa.  
 Barrett Mfg. Co., Philadelphia, Pa.  
 Bird & Sons, East Walpole, Mass.  
 Cameron & Barkley Co., Charleston, S. C.  
 Carolina Portland Cement Co., Charleston, S. C.  
 Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.  
 John-Manville Co., H. W., New York, N. Y.  
 National Roofing Co., Tomsawanda, N. Y.  
 Standard Paint Co., New York, N. Y.  
 Warren-Ehret Co., Philadelphia, Pa.  
**Roofing. (Cement.)**  
 Carey Mfg. Co., Philip, Cincinnati, O.  
**Roofing. (Metal Shingles.) [See Shingles, Metal.]**  
 Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.  
 Cortright Metal Roofing Co., Philadelphia, Pa.  
 Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.  
 Milwaukee Corrugating Co., Milwaukee, Wis.  
**Roofing. (Slate.)**  
 East Bangor Consol. Slate Co., East Bangor, Pa.  
 Galt & Sons, John, New York, N. Y.  
 Genuine Bangor Slate Co., Easton, Pa.  
 Hower, J. K., Stratford, Pa.  
 Johnson, E. J., New York, N. Y.  
**Roofing and Siding. (Bird Sand and Chipped Slate Surfaced.)**  
 Berningham & Seaman Co., Chicago, Ill.  
**Roofing and Siding. (Flexible Cement, Bur-lap Inserted.)**  
 Berningham & Seaman Co., Chicago, Ill.  
**Roofing and Siding. (Metal.)**  
 American Rolling Mill Co., Middletown, O.  
 American Sheet & Tin Plate Co., Pittsburgh, Pa.  
 Cameron & Barkley Co., Charleston, S. C.  
 Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.  
 Cortright Metal Roofing Co., Philadelphia, Pa.  
 Edwards Mfg. Co., The, Cincinnati, O.  
 Hyndman Roofing Co., Cincinnati, O.  
 Milwaukee Corrugating Co., Milwaukee, Wis.  
 New Orleans Rfg. & Metal Wks., New Orleans, La.  
 Tennessee Metal Co., Nashville, Tenn.  
 Youngstown Sheet & Tube Co., Youngstown, O.

**Railroad Frogs and Switches.**

American Frog & Switch Co., Hamilton, O.  
 Cincinnati Frog & Switch Co., Cincinnati, O.  
 Killy Frog & Switch Co., Birmingham, Ala.  
 Mathies Iron & Metal Co., G., St. Louis, Mo.  
 May & Turner Co., Atlanta, Ga.  
 National Iron & Steel Co., Houston, Tex.  
 Newhall Eng. Co., Geo. M., Philadelphia, Pa.  
 Pickett Co., Inc., H. W., Philadelphia, Pa.  
 Read Co., Howard W., Philadelphia, Pa.  
 Robinson & Orr, Pittsburgh, Pa.  
 Sherwood, E. C., New York, N. Y.  
 Smith-Courtney Co., Richmond, Va.  
 Southern Iron & Equipment Co., Atlanta, Ga.  
 Southern Supply Co., Norfolk, Va.  
 Steel Rail Supply Co., The, New York, N. Y.  
 United States Rail Co., Cumberland, Md.  
 Vulcan Iron Works, Wilkes-Barre, Pa.  
 Weir Frog Co., Cincinnati, O.  
 West Virginia Rail Co., The, Huntington, W. Va.  
 Wilson & Co., E. H., Philadelphia, Pa.  
 Zelnicker Supply Co., Walter A., St. Louis, Mo.

**Railroad Tie. (Reinforced Concrete.)**

Universal Concrete Tie Co., New Orleans, La.

**Rails. (Steel.)**

Baldwin Equipment & Supply Co., Chicago, Ill.  
 Carnegie Steel Co., Pittsburgh, Pa.  
 Foster Co., L. B., Pittsburgh, Pa.  
 Franks, J. E., Atlanta, Ga.  
 Hoffman & Co., R. C., Baltimore, Md.  
 Hunt Co., C. W., West New Brighton, N. Y.  
 Hyde Bros., New York, N. Y.  
 Indiana Steel & Iron Co., Pittsburgh, Pa.  
 Levis & Co., Henry, Philadelphia, Pa.  
 Macleary, J. H., Suffolk, Va.  
 Mathies Iron & Metal Co., G., St. Louis, Mo.  
 May & Turner Co., Atlanta, Ga.  
 National Iron & Steel Co., Houston, Tex.  
 Newhall Eng. Co., Geo. M., Philadelphia, Pa.  
 Republic Iron & Steel Co., Youngstown, O.  
 Robinson & Orr, Pittsburgh, Pa.  
 Sherwood, E. C., New York, N. Y.  
 Southern Iron & Equipment Co., Atlanta, Ga.  
 Steel Rail Supply Co., The, New York, N. Y.  
 Sweet's Steel Co., Williamsport, Pa.  
 Tennessee Coal, Iron & R. R. Co., B'm'gh'm, Ala.  
 United States Rail Co., Cumberland, Md.  
 West Virginia Rail Co., The, Huntington, W. Va.  
 Wilson & Co., E. H., Philadelphia, Pa.  
 Zelnicker Supply Co., Walter A., St. Louis, Mo.

**Rail Braces, Crossings, etc. [See R. R. Frogs and Switches.]****Railways. (Industrial.)**

Chase Fdry. & Mfg. Co., Columbus, O.  
 Hunt Co., C. W., West New Brighton, N. Y.  
 Link-Belt Co., Newtown (Philadelphia), Pa.

**Rams. (Hydraulic.) [See Hydraulic Rams.]****Reamers.**

Morse Twist Drill &amp; Mch. Co., New Bedford, Mass.

**Reflectors.**

Holophane Co., Newark, Ohio.

**Refrigerating Machinery and Supplies.**

American Huhn Packing Co., New York, N. Y.

**Reinforcing Bars.**

Carnegie Steel Co., Pittsburgh, Pa.  
 Concrete Steel Co., New York, N. Y.  
 Concrete Steel Engineering Co., New York, N. Y.  
 Franklin Steel Co., Franklin, Pa.

**Repairing. (Armatures and Elec. App.)**

Nashville Armature Works, Nashville, Tenn.

**Repairing. (Power Plants.)**

Strickland Mch. Co., Richmond, Va.

**Riveters. (Pneumatic.)**

Chicago Pneumatic Tool Co., Chicago, Ill.  
 Independent Pneumatic Tool Co., Chicago, Ill.  
 Ingersoll-Rand Co., New York, N. Y.

**Road Machinery.**

Austin-Western Ltd., The, Chicago, Ill.  
 Blount, C. H., Atlanta, Ga.  
 Buffalo Steam Roller Co., Buffalo, N. Y.  
 Case Threshing Mach. Co., J. L., Racine, Wis.  
 Iroquois Iron Works, Buffalo, N. Y.  
 Kelly Springfield Road Roller Co., Springfield, O.  
 Syracuse Chilled Plow Co., Syracuse, N. Y.  
 Universal Road Mch. Co., Kingston, N. Y.

**Roadmaking Materials.**

Standard Oil Co., Inc., Road Oil Dept.

**Road Roller. (Steam.)**

Austin-Western Ltd., The, Chicago, Ill.  
 Buffalo Steam Roller Co., Buffalo, N. Y.  
 Case Threshing Mach. Co., J. L., Racine, Wis.  
 Iroquois Iron Works, Buffalo, N. Y.  
 Kelly Springfield Road Roller Co., Springfield, O.  
 Universal Road Mch. Co., Kingston, N. Y.

**Road Oil.**

Gulf Refining Co., Pittsburgh, Pa.  
 Prime White Road Oil Co., Cincinnati, O.  
 Standard Oil Co., Inc., Road Oil Dept.  
 Texas Co., The, New York, N. Y.

**Road Plows.**

Case Threshing Mach. Co., J. L., Racine, Wis.  
 Syracuse Chilled Plow Co., Syracuse, N. Y.

**Road Preservative.**

Gulf Refining Co., Pittsburgh, Pa.  
 Standard Oil Co., Inc., Road Oil Dept.  
 Texas Co., The, New York, N. Y.

**Rock Crushers. [See Crushers, Rock.]**

Veatch &amp; Co., L. R., Louisville, Ky.

**Roiled Metal Shapes. (For Building Material Manufacturers.)**

United States Metal Products Co., New York, N. Y.

**Rolls. (Bending and Straightening.)**

Bertsch &amp; Co., Cambridge City, Ind.

**Roofers' and Tinners' Supplies.**

Merchant &amp; Evans Co., Philadelphia, Pa.

**Roofing. (Contractors for Laying.)**

Dinaco &amp; Bro., A., Pittsburgh, Pa.

**Roofing. (Felt, Tar, Asbestos, Asphalt, Tin, etc.)**

Allen, Herbert F. L., Washington, D. C.  
 American Sheet & Tin Plate Co., Pittsburgh, Pa.  
 Armistead Mfg. Co., Richmond, Va.  
 Barber Asphalt Paving Co., Philadelphia, Pa.  
 Barrett Mfg. Co., Philadelphia, Pa.  
 Bird & Sons, East Walpole, Mass.  
 Cameron & Barkley Co., Charleston, S. C.  
 Carolina Portland Cement Co., Charleston, S. C.  
 Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.  
 John-Manville Co., H. W., New York, N. Y.  
 National Roofing Co., Tomsawanda, N. Y.  
 Standard Paint Co., New York, N. Y.  
 Warren-Ehret Co., Philadelphia, Pa.

**Roofing. (Cement.)**

Carey Mfg. Co., Philip, Cincinnati, O.

**Roofing. (Metal Shingles.) [See Shingles, Metal.]**

Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.  
 Cortright Metal Roofing Co., Philadelphia, Pa.  
 Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.  
 Milwaukee Corrugating Co., Milwaukee, Wis.

**Roofing. (Slate.)**

East Bangor Consol. Slate Co., East Bangor, Pa.  
 Galt & Sons, John, New York, N. Y.  
 Genuine Bangor Slate Co., Easton, Pa.  
 Hower, J. K., Stratford, Pa.  
 Johnson, E. J., New York, N. Y.

**Roofing and Siding. (Bird Sand and Chipped Slate Surfaced.)**

Berningham &amp; Seaman Co., Chicago, Ill.

**Roofing and Siding. (Flexible Cement, Bur-lap Inserted.)**

Berningham &amp; Seaman Co., Chicago, Ill.

**Roofing and Siding. (Metal.)**

American Rolling Mill Co., Middletown, O.  
 American Sheet & Tin Plate Co., Pittsburgh, Pa.  
 Cameron & Barkley Co., Charleston, S. C.  
 Cincinnati Sheet Metal & Rfg. Co., Cincinnati, O.  
 Cortright Metal Roofing Co., Philadelphia, Pa.  
 Edwards Mfg. Co., The, Cincinnati, O.  
 Hyndman Roofing Co., Cincinnati, O.  
 Milwaukee Corrugating Co., Milwaukee, Wis.  
 New Orleans Rfg. & Metal Wks., New Orleans, La.  
 Tennessee Metal Co., Nashville, Tenn.  
 Youngstown Sheet & Tube Co., Youngstown, O.

**Rope.**

American Mfg. Co., New York, N. Y.  
 Broderick & Bascom Rope Co., St. Louis, Mo.  
 Columbian Rope Co., Auburn, N. Y.  
 Plymouth Cordage Co., North Plymouth, Mass.  
 Turner Co., J. Spencer, New York, N. Y.  
 Whitlock Cordage Co., New York, N. Y.

**Rope. (Transmission and Hoisting.)**

American Mfg. Co., New York, N. Y.  
 American Steel & Wire Co., Chicago, Ill.  
 Broderick & Bascom Rope Co., St. Louis, Mo.  
 Caldwell Co., Inc., W. E., Louisville, Ky.  
 Columbian Rope Co., Auburn, N. Y.  
 Dodge Manufacturing Co., Mishawaka, Ind.  
 Hunt Co., C. W., West New Brighton, N. Y.  
 Plymouth Cordage Co., North Plymouth, Mass.  
 Whitlock Cordage Co., New York, N. Y.  
 Wood's Sons Co., T. B., Chambersburg, Pa.

**Rope Drives.**

Brown Co., A. & F., New York, N. Y.  
 Caldwell Co., Inc., W. E., Louisville, Ky.  
 Caldwell & Son Co., H. W., Chicago, Ill.  
 Cresson Co., Geo. V., Philadelphia, Pa.  
 Dodge Manufacturing Co., Mishawaka, Ind.  
 Jones & Laughlin Steel Co., Pittsburgh, Pa.  
 Woods' Sons Co., T. B., Chambersburg, Pa.

**Rope Machinery.**

Haskell-Dawes Machine Co., Boston, Mass.

**Rubber Goods.**

Eureka Fire Hose Mfg. Co., New York, N. Y.  
 New Jersey Car Spg' & Rub. Co., Jersey City, N. J.

**Rules. (Steel.)**

Larkin Rule Co., The, Saginaw, Mich.  
 Starratt Co., L. S., Athol, Mass.

**Safes and Vaults.**

York Safe &amp; Lock Co., York, Pa.

**Safety Appliances. (For Elevator.)**

Roth Elevator Safety Co., Inc., Baltimore, Md.

**Sand.**

Arundel Sand & Gravel Co., Baltimore, Md.  
 Cassels Cement Gravel Co., Augusta, Ga.  
 Kirkpatrick Sand & Gravel Co., Birmingham, Ala.  
 Lathrop & Co., C. P., Richmond, Va.

**Sand Lime Brick Machinery.**

American Clay Machinery Co., The, Bucyrus, O.

**Sand Rammers.**

Chicago Pneumatic Tool Co., Chicago, Ill.

**Sap Stain Preventive.**

Church &amp; Dwight Co., New York, N. Y.

**Sash Chain.**

Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.

**Saws.**

Gibbs Machinery Co., Columbia, S. C.  
 Huther Bros. Saw Mfg. Co., Rochester, N. Y.  
 Smith Machine Co., H. B., Smithville, N. J.  
 Sydnor Pump & Well Co., Richmond, Va.

**Saws. (Band.)**

Smith Machine Co., H. B., Smithville, N. J.

**Saws. (Hack.)**

Starratt Co., L. S., Athol, Mass.

**Sawmill Dogs.**

Soule Steam Feed Works, Meridian, Miss.

**Sawmills.**

Appomattox Iron Works, Petersburg, Va.  
 Gainesville Iron Works, Gainesville, Ga.  
 Vance & Co., J. A., Salem, N. C.

**Sawmill Machinery.**

Balley-Lehby Co., Charleston, S. C.  
 Cameron & Barkley Co., Charleston, S. C.  
 Chase Turbine Mfg. Co., Orange, Mass.  
 Farquhar Co., Ltd., A. B., York, Pa.  
 Gibbs Machinery Co., Columbia, S. C.  
 Knight Mfg. Co., Canton, O.  
 Lane Mfg. Co., Montpelier, Vt.  
 Mecklenburg Iron Works, Charlotte, N. C.  
 Price Mch. Co., S. M., Norfolk, Va.  
 Schofield's Sons Co., J. S., Macon, Ga.  
 Southern Engine & Boiler Works, Jackson, Tenn.  
 Sydnor Pump & Well Co., Richmond, Va.  
 Union Iron Works Co., Selma, Ala.  
 Vance & Co., J. A., Salem, N. C.

**Saw Sharpeners.**

Abrasive Material Co., Philadelphia, Pa.

**Scales.**

Carborundum Co., Niagara Falls, N. Y.  
 Norton Co., Worcester, Mass.  
 Vittrified Wheel Co., Westfield, Mass.

**Saw Sharpeners and Files. (Cotton Gln.)**

Carver Cotton Gln Co., East Bridgewater, Mass.

**Scales.**

Howe Scale Co., New York, N. Y.  
 Home Scale & Mfg. Co., Rome, Ga.  
 Standard Scale & Supply Co., Pittsburgh, Pa.

**Screening Apparatus.**

Walker &amp; Elliott, Wilmington, Del.

**Screens. (Fly, Window and Door.)**

New Jersey Wire Cloth Co., Trenton, N. J.

**Screens. (Mining.)**

Cresson Co., Geo. V., Philadelphia, Pa.  
 Erdle Performing Co., Rochester, N. Y.  
 Hendrick Mfg. Co., Carbondale, Pa.  
 Jeffrey Mfg. Co., Columbus, O.  
 Mundt & Sons, Charles, Jersey City, N. J.  
 McLanahan-Stone Mach. Co., Hollidaysburg, Pa.  
 New Jersey Wire Cloth Co., Trenton, N. J.  
 Waterloo Cement Mchry. Co., Waterloo, Iowa.

**Searchlights.**

Ft. Wayne Electric Works, Ft. Wayne, Ind.

**Separators. (Dust.)**

Buffalo Forge Co., Buffalo, N. Y.  
 Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
 Savannah Blow Pipe Co., Savannah, Ga.  
 Skinner Bros., St. Louis, Mo.

**Sewer Pipe Machinery.**

American Clay Machinery Co., The, Bucyrus, O.

**Sewer Pipe. (Vitrified.)**

Philas Sewer Pipe Co., Macon, Ga.

**Stapling Machinery.** (Fruit Package Basket, etc.)  
Garanc Machine Co., St. Joseph, Mich.

**Stationers.** (Envelopes, Letter and Bill Heads, etc.)  
Franklin Press Co., Petersburg, Va.  
Young & Selden Co., Baltimore, Md.

**Steam Feeds.**  
Seale Steam Feed Works, Meridian, Miss.

**Steam Fitters' Supplies.**  
General Fire Extinguisher Co., Providence, R. I.  
Saunders' Sons, D., Yonkers, N. Y.

**Steam Heating.**  
General Fire Extinguisher Co., Providence, R. I.  
Seeler Co., E., Williamsport, Pa.  
Peck-Hammond Co., The, Cincinnati, O.

**Steamship Lines.**  
Baltimore Steam Packet Co., Baltimore, Md.  
Chesapeake Steamship Co., Baltimore, Md.  
Merchant & Miners' Trans. Co., Baltimore, Md.

**Steam Separators.**  
Hopps Mfg. Co., Springfield, O.  
Lindstrom's Mach. Wks., John T., Allentown, Pa.

**Steam Shovel Chains.**  
Werner Chain & Iron Co., Lebanon, Pa.

**Steam Shovels.** [See Excavating Machinery.]

**Steam Shovels.** (Revolving.)  
Browning Engineering Co., Cleveland, O.

**Steam Specialties.**  
Powell Co., Wm., Cincinnati, O.  
Purser, J. R., Charlotte, N. C.

**Steam Traps.**  
American Blower Co., Detroit, Mich.  
Jenkins Bros., New York, N. Y.  
Lindstrom's Mach. Wks., John T., Allentown, Pa.

**Steel.**  
American Rolling Mill Co., Middletown, O.  
Dietrich Bros., Baltimore, Md.  
Field & Co., Inc., Philadelphia, Pa.  
Hoffman & Co., R. C., Baltimore, Md.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Lebanon Valley Iron & Steel Co., Lebanon, Pa.  
La Belle Iron Works, Steubenville, O.  
Republie Iron & Steel Co., Youngstown, O.  
Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.  
Wood Iron & Steel Co., Alan, Philadelphia, Pa.

**Steels.** (Tool.)  
Field & Co., Inc., Philadelphia, Pa.  
Jessepa Sons Steel Sales Co., Wm., St. Louis, Mo.

**Steel.** (Vanadium.)  
Carnegie Steel Co., Pittsburgh, Pa.

**Steel Buildings.** (Designers, Builders.)  
American Bridge Co. of New York, New York, N. Y.  
Baltimore Bridge Co., Baltimore, Md.  
Bartlett-Hayward Co., The, Baltimore, Md.  
Chesapeake Iron Works, Baltimore, Md.  
Chicago Bridge & Iron Wks., Chicago, Ill.  
Farrle Bridge Co., Pittsburg, Pa.  
Missouri Valley Bridge & Iron Co., Leavenworth, Kans.  
Phoenix Iron Co., Philadelphia, Pa.  
Ritter-Conley Mfg. Co., Pittsburg, Pa.  
Roanoke Bridge Co., Roanoke, Va.  
Schreiber & Sons Co., The L., Cincinnati, O.  
Steel Architectural Iron Works, Louisville, Ky.  
Virginia Bridge & Iron Co., Roanoke, Va.

**Steel Casting.**  
Crucible Steel Castings Co., Lansdowne, Pa.  
Hoffman & Co., R. C., Baltimore, Md.  
Baltimore Steel Casting Co., Pittsburgh, Pa.  
Millsdale Steel Casting Co., Newark, N. J.

**Steel Plate Work.**  
Bartlett-Hayward Co., The, Baltimore, Md.  
Casey-Hedges Co., Chattanooga, Tenn.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Chicago, Ill.  
Hoffman & Co., R. C., Baltimore, Md.  
Phoenix Iron Co., Philadelphia, Pa.  
Republie Iron & Steel Co., Youngstown, O.  
Ritter-Conley Mfg. Co., Pittsburg, Pa.

**Steel Protector.** (Concrete Curb Steps, etc.)  
[See Protector Steel.]

**Steel Sheet Piling.**  
Jones & Laughlin Steel Co., Pittsburgh, Pa.

**Steering Gears.** (Steamboat.)  
Oak Engine Co., Grand Haven, Mich.

**Stencils.**  
Baltimore Office Supply Co., Baltimore, Md.  
Dixie Seal & Stamp Co., Atlanta, Ga.

**Steps.** (Extension, for Railroad Coaches.)  
Blake Car Step Works, Charlotte, N. C.

**Stirrups.** (Building.)  
Chesapeake Iron Works, Baltimore, Md.

**Stock Certificates, Bonds and Seals.**  
Baltimore Office Supply Co., Baltimore, Md.  
Dixie Seal & Stamp Co., Atlanta, Ga.

**Stokers.** (Mechanical.)  
Babcock & Wilcox Co., New York, N. Y.  
Harrisburg Fdry. & Mach. Works, Harrisburg, Pa.  
Westinghouse Machine Co., Pittsburg, Pa.

**Storage Batteries.**  
Elec. Storage Battery Co., The, Philadelphia, Pa.  
Lee Electric Co., Baltimore, Md.  
Westinghouse Machine Co., Pittsburg, Pa.

**Strainers.**  
Cameron Steam Pump Wks., A. S., New York, N. Y.

**Structural Steel and Iron.**  
American Bridge Co. of New York, New York, N. Y.  
Baltimore Bridge Co., Baltimore, Md.  
Bartlett-Hayward Co., The, Baltimore, Md.  
Belmont Iron Works, Inc., Philadelphia, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Chesapeake Iron Works, Baltimore, Md.  
Chicago Bridge & Iron Wks., Chicago, Ill.  
Cincinnati Iron & Steel Co., Cincinnati, O.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
Dietrich Bros., Baltimore, Md.  
Hoffman & Co., R. C., Baltimore, Md.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Missouri Valley Bridge & Iron Co., Leavenworth, Kans.  
Phoenix Iron Co., Philadelphia, Pa.  
Republie Iron & Steel Co., Youngstown, O.  
Ritter-Conley Mfg. Co., Pittsburg, Pa.  
Roanoke Bridge Co., Roanoke, Va.  
Roanoke Iron Works, Inc., Roanoke, Va.  
Schreiber & Sons Co., The L., Cincinnati, O.  
Steel Architectural Iron Works, Louisville, Ky.  
Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.  
York Bridge Co., York, Pa.

**Stump Pullers.**  
Zimmerman Steel Co., M. R., Lone Tree, Ia.

**Sugar-Mill Machinery.**  
Pratt Engineering & Mach. Co., Atlanta, Ga.

**Sulphur.**  
Union Sulphur Co., New York, N. Y.

**Super-Heaters.** (Steam.)  
Babcock & Wilcox Co., New York, N. Y.  
Power Specialty Co., New York, N. Y.

**Surveying Instruments.**  
Kneffel & Esser, Hoboken, N. J.  
Weber & Co., F., Philadelphia, Pa.

**Switchboards, Switches, etc.**  
Dunkley-Hill Electric Co., Pittsburg, Pa.  
Kneffel & Esser, Hoboken, N. J.  
Port Wayne Electric Works, Atlanta, Ga.  
General Electric Co., Schenectady, N. Y.  
Westinghouse Electric & Mfg. Co., Pittsburg, Pa.

**Switches.** [See Railroad Frogs and Switches.]

**Switchstands.**  
American Valve & Meter Co., Cincinnati, O.  
Welf Frog Co., Cincinnati, O.

**Tachometers.** (Electric.)  
Electric Speedometer Co., Washington, D. C.

**Tackle Blocks.** (For Wire or Manila Rope.)  
Patterson Co., W. W., Pittsburg, Pa.

**Tags.**  
Dennison Mfg. Co., Boston, Mass.

**Tanks.** (Iron and Steel.)  
American Water Softener Co., Philadelphia, Pa.  
Bartlett-Hayward Co., The, Baltimore, Md.  
Caldwell & Co., Inc., Louisville, Ky.  
Case Threshing Mach. Co., J. I., Racine, Wis.  
Casey-Hedges Co., Chattanooga, Tenn.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Chicago, Ill.  
Cole Mfg. Co., R. D., Newman, Ga.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
Gem City Boiler Co., Dayton, O.  
Harry Bros. Co., Dallas, Tex.  
Hartley Boiler Works, Montgomery, Ala.  
Kneffel & Esser, Hoboken, N. J.  
Kneffel & Esser, Hoboken, N. J.  
Lombard Iron Works, Augusta, Ga.  
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.  
New Orleans Mfg. & Metal Wks., New Orleans, La.  
Petroleum Iron Works Co., Sharon, Pa.  
Ritter-Conley Mfg. Co., Pittsburg, Pa.  
Roanoke & Sons Co., Wm. B., Pittsburg, Pa.  
Schmidt's Sons Co., J. S., Macon, Ga.  
Sydney Pump & Well Co., Richmond, Va.  
Tennessee Metal Culvert Co., Nashville, Tenn.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Walsh & Weininger Boiler Co., Chattanooga, Tenn.

**Tanks.** (Wood.)  
Baltimore Cooperage Co., Baltimore, Md.  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Davis & Son, G. M., Palatka, Fla.  
Sydney Pump & Well Co., Richmond, Va.

**Tapes.** (Measuring.)  
Kneffel & Esser, Hoboken, N. J.  
Larkin Rule Co., Saginaw, Mich.  
Starrett Co., L. S., Athol, Mass.

**Telephones.** (Supplies, Equipment.)  
Dunkley-Hill Electric Co., Pittsburg, Pa.  
Hudson Electric Co., Asheville, N. C.  
Western Electric Co., New York, N. Y.

**Telephone Cable.**  
Intern'l Cere. & Constr. Co., Galveston, Tex.  
Western Electric Co., New York, N. Y.

**Telephone Poles.** [See Crossies.]  
Western Electric Co., New York, N. Y.

**Terra-cotta.**  
Atlanta Terra-Cotta Co., East Point, Ga.  
Hills Sewer Pipe Co., Macon, Ga.  
Maryland Terra-Cotta Co., Baltimore, Md.  
Pomona Terra-Cotta Co., Pomona, N. C.  
Southern Building Material Co., Norfolk, Va.  
Stevens' Sons Co., H., Macon, Ga.

**Threshers.**  
Curdwell Machine Co., Richmond, Va.  
Case Threshing Mach. Co., J. I., Racine, Wis.

**Tie Plates.** (Railways.)  
Virginia Railway Supply Co., Norfolk, Va.

**Tile.** (Drain, Floor, etc.)  
Amer. Enam. Brick & Tile Co., New York, N. Y.  
Hills Sewer Pipe Co., Macon, Ga.  
Oconee Brick & Tile Co., Milledgeville, Ga.

**Tile.** (Mosaic.)  
Dagostin & Angelini Bros., Montgomery, Ala.  
Southern Mosaic Tile Co., Birmingham, Ala.

**Tin and Terne Plates.**  
American Sheet & Tin Plate Co., Pittsburg, Pa.  
Merchant & Evans Co., Philadelphia, Pa.

**Tobacco Machinery.**  
Buckeye Iron & Brass Works, Dayton, O.  
Cardwell Machine Co., Richmond, Va.

**Tool Steels.**  
Jessepa's Sons Steel Sales Co., Wm., St. Louis, Mo.

**Tools.** (Machinists.)  
Manning, Maxwell & Moore, Inc., New York, N. Y.  
Morse Twist Drill & Mach. Co., New Bedford, Mass.

**Tools.** (Mechanical.)  
Starrett Co., L. S., Athol, Mass.

**Tools.** (Pneumatic.)  
American Compressor & Pump Co., Baltimore, Md.  
Chicago Pneumatic Tool Co., Chicago, Ill.  
Independent Pneumatic Tool Co., Chicago, Ill.  
Ingersoll-Rand Co., New York, N. Y.

**Torches.**  
Wall Mfg. Supply Co., P., Allegheny, Pa.

**Towers.** (Steel and Wood.)  
Baltimore Cooperage Co., Baltimore, Md.  
Caldwell & Co., Inc., Wm. E., Louisville, Ky.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Chicago, Ill.  
Cole Mfg. Co., R. D., Newman, Ga.  
Des Moines Bridge & Iron Co., Des Moines, Ia.

**Traction Engines.**  
Case Threshing Mach. Co., J. I., Racine, Wis.

**Tramway.** (Overhead.)  
Consolidated Tramway Co., Roanoke, Va.  
Northern Engineering Works, Detroit, Mich.  
Speldel, J. G., Reading, Pa.

**Tramway.** (Wire Rope.)  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Consolidated Tramway Co., Roanoke, Va.  
Caldwell & Sons Co., H. W., Chicago, Ill.  
Link-Belt Co., Cicetown (Philadelphia), Pa.

**Transformers.**  
Crocker-Wheeler Co., Ampere, N. J.  
Moloney Electric Co., St. Louis, Mo.  
Triumph Electric Co., Cincinnati, O.

**Transmission Line Supplies.** (Electric.)  
Electrical Engineers' Equip. Co., Chicago, Ill.

**Trench Excavator.**  
American Steel Dredge Co., Ft. Wayne, Ind.  
Fairbanks Steam Shovel Co., Marion, O.  
Monaghan Machine Co., Chicago, Ill.

**Trucks.** (Motor.)  
Kelly Motor Truck Co., Springfield, O.  
Schacht Motor Car Co., Cincinnati, Ohio.

**Trucks.** (Platform, Freight, Mill, Factory, etc.)  
Chase Fdry. & Mfg. Co., Columbus, O.  
Clark Co., Geo. F., Windsor Locks, Conn.  
Howe Scale Co., New York, N. Y.  
Rome Scale & Mfg. Co., Rome, Ga.

**Trucks.** (Storage Battery Auto.)  
Westinghouse Machine Co., Pittsburg, Pa.

**Trucks.** (Wood and Steel for Portable Machinery.)  
Empire Manufacturing Co., Quincy, Ill.

**Trust Companies.** [See Bankers and Brokers.]

**Tube Well Strainers.**  
Cook Well Co., St. Louis, Mo.

**Tubes.** (Boiler.)  
Allegheny Steel Co., Pittsburg, Pa.  
Cincinnati Iron & Steel Co., Cincinnati, O.  
National Tube Co., Pittsburg, Pa.

**Tubing.**  
Field & Co., Inc., Philadelphia, Pa.  
La Belle Iron Works, Steubenville, O.  
National Tube Co., Pittsburg, Pa.  
Youngstown Sheet & Tube Co., The, Youngstown, O.

**Turbines.** (Hydraulic.)  
Allis-Chalmers Co., Milwaukee, Wis.  
Davis Foundry & Machine Works, Rome, Ga.  
Dayton Globe Iron Works Co., Dayton, O.  
Lefel & Co., James, Springfield, O.  
Poole Engineering & Mach. Co., Baltimore, Md.  
Smith Co., S. Morgan, York, Pa.  
Trump Mfg. Co., Springfield, O.

**Turbines.** (Steam.)  
Allis-Chalmers Co., Milwaukee, Wis.  
De Laval Steam Turbine Co., Trenton, N. J.  
Emerson Steam Pump Co., Alexandria, Va.  
Ft. Wayne Electric Works, Ft. Wayne, Ind.  
General Electric Co., Schenectady, N. Y.  
Southway Fdry. & Mach. Co., Philadelphia, Pa.  
Terry Steam Turbine Co., New York, N. Y.  
Western Electric Co., New York, N. Y.  
Westinghouse Machine Co., Pittsburg, Pa.

**Turbine Condensers.**  
Wheeler Condenser & Eng. Co., New York, N. Y.

**Turntables.**  
Baltimore Bridge Co., Baltimore, Md.  
Virginia Bridge & Iron Co., Roanoke, Va.

**Turpentine.**  
Atlantic Turpentine & Refin'g Co., Savannah, Ga.

**Tuyeres.** (Copper and Bronze.)  
Keystone Bronze Co., Pittsburgh, Pa.

**Twine.**  
American Manufacturing Co., New York, N. Y.  
Columbian Rope Co., Auburn, N. Y.  
Plymouth Cordage Co., North Plymouth, Mass.  
Turner Co., J. Spencer, New York, N. Y.  
Whitlock Cordage Co., New York, N. Y.

**Twine Machinery.**  
Haskell Daves Machine Co., Boston, Mass.

**Twisting Machinery.**  
Haskell Daves Machine Co., Boston, Mass.

**Unions.**  
Dart Manufacturing Co., E. M., Providence, R. I.

**Valves.**  
Rouben Copper & Brass Wks. Co., Cincinnati, O.  
Columbian Iron Works, Chattanooga, Tenn.  
Frick Co., The, Waynesboro, Pa.  
General Fire Extinguisher Co., Providence, R. I.  
Glanorgan Pipe & Foundry Co., Lynchburg, Va.  
Jenkins Bros., New York, N. Y.  
National Tube Co., Pittsburg, Pa.  
Powell Co., Wm., Cincinnati, O.  
Wolf & Co., Fred W., Chicago, Ill.  
York Mfg. Co., York, Pa.

**Varnish.**  
Berry Bros., Ltd., Detroit, Mich.  
Glidden Varnish Co., Cleveland, O.

**Veneer Machines.**  
Titus, E. E., Petersburg, Va.

**Ventilating Apparatus.** (Engineers' and Contractors.)  
American Blower Co., Detroit, Mich.  
Buffalo Forge Co., Buffalo, N. Y.  
Garden City Fan Co., Chicago, Ill.  
Peck-Hammond Co., Cincinnati, O.  
Sturtevant Co., B. F., Hyde Park, Mass.

**Ventilators.**  
Merchant & Evans Co., Philadelphia, Pa.

**Wagons.** (Dump.)  
Eagle Wagon Works, Auburn, N. Y.  
Troy Wagon Works Co., Troy, O.

**Wall Plaster.**  
King & Co., J. B., New York, N. Y.

**Wall Plugs.** (Galvanized.)  
Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.  
Wicks & Co., Milton O., Glen Cove, N. Y.

**Wall Ties.**  
Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.  
Page Woven Wire Fence Co., Adrain, Mich.

**Washers.** (Ore and Phosphate.)  
Bailey-Lehby Co., Charleston, S. C.  
Cameron & Barkley Co., Charleston, S. C.  
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.

**Washers and Rivets.** [See Bolts, Nuts, Rivets, Studs and Washers.]

**Water Filters.** [See Filters, Water, for Domestic and Industrial Purposes.]

**Water Meters.**  
American Valve & Meter Co., Cincinnati, O.

**Waterproofing.** (For Brick Work.)  
Barrett Mfg. Co., Philadelphia, Pa.  
Carolina Portland Cement Co., Charleston, S. C.  
National Roofing Co., Tonawanda, N. Y.

**Waterproofing.** (For Concrete.)  
Barrett Mfg. Co., Philadelphia, Pa.  
National Roofing Co., Tonawanda, N. Y.

**Waterproof Compound.** (Liquid.)  
Carolina Portland Cement Co., Charleston, S. C.  
National Roofing Co., Tonawanda, N. Y.

**Water-Softening Apparatus.** (Purifying.)  
American Water Softener Co., Philadelphia, Pa.  
Dodge Manufacturing Co., Mishawaka, Ind.  
Gem City Boiler Co., Dayton, O.  
Kneffel & Esser, Hoboken, N. J.  
N. Y. Cont. Jewell Filtration Co., New York, N. Y.  
Roberts Filter Mfg. Co., Philadelphia, Pa.  
Seafie & Sons Co., Wm. B., Pittsburg, Pa.  
Tucker & Laxton, Charlotte, N. C.

**Water Supply Systems.** (Town, Home, Railroad, etc.)  
Rife Engine Co., New York, N. Y.

**Water-Wheels.** [See Turbines. (Hydraulic).]

**Water-Works Supplies and Appliances.**  
American Cast Iron Pipe Co., Birmingham, Ala.  
American Pipe & Constr. Co., Philadelphia, Pa.  
Bibbs Sewer Pipe Co., Macon, Ga.  
Blount, C. H., Atlanta, Ga.  
Bourbon Copper & Brass Wks. Co., Cincinnati, O.  
Caldwell-Wilcox Co., Newburgh, N. Y.  
Columbian Iron Works, Chattanooga, Tenn.  
Glanorgan Pipe & Foundry Co., Lynchburg, Va.  
Keystone Pump & Well Eng. Co., Beaver Falls, Pa.  
Leadite Co., The, Philadelphia, Pa.  
McWane Pipe Works, Lynchburg, Va.  
Pomona Terra-Cotta Co., Pomona, N. C.  
Stevens' Sons Co., H., Macon, Ga.  
U. S. Cast Iron Pipe & Fdry. Co., New York, N. Y.

**Weigher.** (Recording Liquid.)  
Worthington, Henry R., New York, N. Y.

**Well Contractors.** (Oil, Artesian, etc.)  
Cook Well Co., The, St. Louis, Mo.  
Hughes Specialty Well Drill Co., Charleston, S. C.  
Sydney Pump & Well Co., Richmond, Va.

**Well Tools and Supplies.**  
Cook Well Co., The, St. Louis, Mo.  
Keystone Pump & Well Eng. Co., Beaver Falls, Pa.  
Williams Bros., Ithaca, N. Y.

**Wheels and Axles.**  
Empire Manufacturing Co., Quincy, Ill.  
Oliver Mfg. Co., W. J., Knoxville, Tenn.

**Wheelbarrows and Trucks.**  
Syracuse Chilled Flow Co., Syracuse, N. Y.

**Wheels.** (Steel and Steel Tired.)  
Carnegie Steel Co., Pittsburgh, Pa.  
Empire Manufacturing Co., Quincy, Ill.

**Window Frames and Sashes.** (Fireproof.)  
Detroit Steel Products Co., Detroit, Mich.  
United States Metal Products Co., New York, N. Y.  
Voigtmann & Co., Chicago, Ill.

**Window Guards.** (Wire.) [See Wire Goods.]

**Windmills.**  
Baltimore Cooperage Co., Baltimore, Md.  
Caldwell Co., Inc., W. E., Louisville, Ky.

**Wire Insulating.**  
General Electric Co., Schenectady, N. Y.

**Wire.** (Barbed Wire, etc.)  
American Steel & Wire Co., Chicago, Ill.  
Roedling's Sons Co., J. A., Trenton, N. J.  
Youngstown Sheet & Tube Co., Youngstown, O.

**Wire Cloth.** (Iron, Steel, Brass, etc.)  
American Steel & Wire Co., Chicago, Ill.  
Caldwell & Sons Co., The H. W., Chicago, Ill.  
Diamond Wire Products Co., Columbus, O.  
Meyers Mfg. Co., Fred J., Hamilton, O.  
New Jersey Wire Cloth Co., Trenton, N. J.  
Wright & Co., W. N., New York, N. Y.

**Wire Goods.**  
Bolles Iron & Wire Works, J. E., Detroit, Mich.  
Buckeye Wire & Iron Works Co., Columbus, O.  
Cincinnati Mfg. Co., Cincinnati, O.  
Diamond Wire Products Co., Columbus, O.  
Dow Wire Works Co., Louisville, Ky.  
Dufur & Co., Baltimore, Md.  
Dufur, Haggott & Co., Baltimore, Md.  
Jones & Co., L. E., Baltimore, Md.  
Meyers Mfg. Co., The Fred J., Hamilton, O.  
New Jersey Wire Cloth Co., Trenton, N. J.

**Wire Netting.**  
American Steel & Wire Co., Chicago, Ill.  
New Jersey Wire Cloth Co., Trenton, N. J.

**Wire Rope.**  
American Steel & Wire Co., Chicago, Ill.  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Contractors' Plant Mfg. Co., Inc., Buffalo, N. Y.  
Roedling's Sons Co., J. A., Trenton, N. J.  
Williamsport Wire Rope Co., Williamsport, Pa.  
Youngstown Sheet & Tube Co., Youngstown, O.

**Wire Rope Clips.**  
American Holst & Derrick Co., St. Paul, Minn.

**Wire Rope Thimbles.**  
Broderick & Bascom Rope Co., St. Louis, Mo.

**Wood Blocks.** (For Paving and Factory Floors.)  
U. S. Wood Preserving Co., New York, N. Y.

**Woodboring Machines.**  
Chicago Pneumatic Tool Co., Chicago, Ill.  
Ingersoll-Rand Co., New York, N. Y.

**Wood-Fiber Plaster.**  
King & Co., J. B., New York, N. Y.

**Wood Pipe.** (For Water, etc.)  
Wyckoff & Son Co., A., Elmira, N. Y.

**Woodworking Machinery.**  
Gibbs Mch. Co., Columbia, S. C.  
Kline, Lewis T., Alpena, Mich.  
Knight Mfg. Co., Canton, O.  
Lane Mfg. Co., Montpelier, Vt.  
Over Mfg. Co., Chagrin Falls, O.  
Shimer & Sons, Samuel J., Milton, Pa.  
Smith-Courtney Co., Richmond, Va.  
Smith Machine Co., H. B., Smithville, N. J.  
Wilmington Iron Works, Wilmington, N. C.  
Vance & Co., J. A., Salem, N. C.

**Wrapping Paper.**  
Berlin Mills Co., Portland, Maine.

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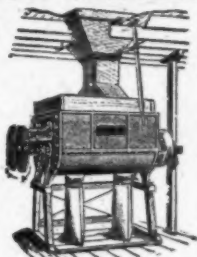
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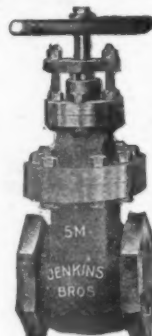
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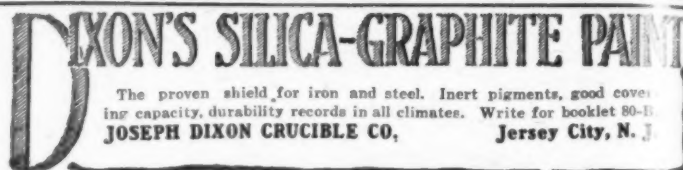
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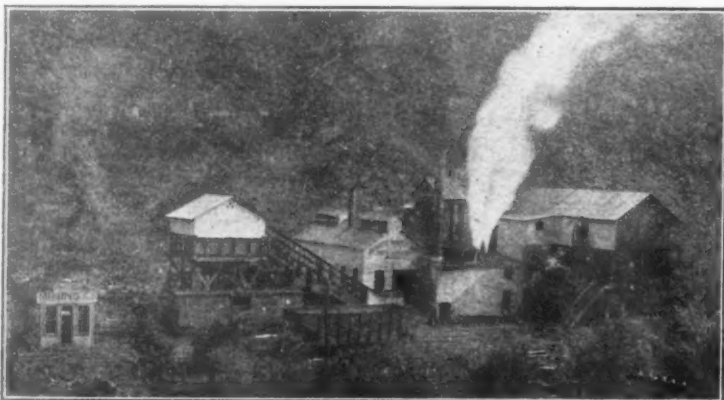
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